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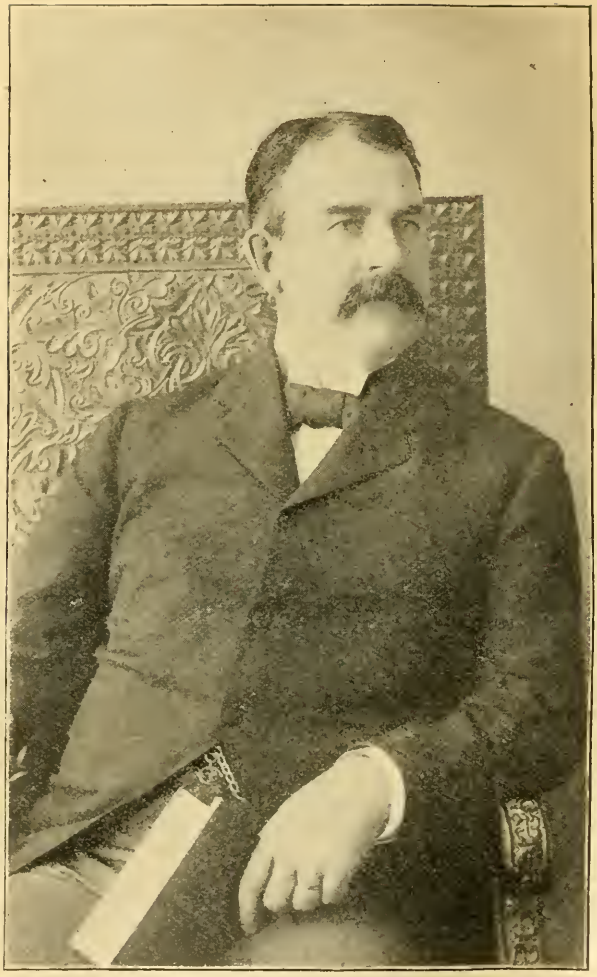

A. G. SPALDING.

SPALDING'S

OFFICIAL

CYCLE GUIDE

FOR 1896.

CONTAINING PORTRAITS OF ALL THE LEADING AMERICAN RIDERS, AND VALUABLE INSTRUCTIONS TO CYCLISTS.

HINTS ON TRAINING,

By Fred Titus and others.

COMPLETE LIST OF "BEST ON RECORD."

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EDWARD C. BALD.

CYCLING.

Cycling, in view of its recent developments, cannot be excluded from a comprehensive list of athletic sports. But at the same time it must at once be admitted that it differs in many points from all other branches of athletics. Thus the runner, the jumper and all other votaries of pedestrian sport find their alpha and omega in public competitions, on the cinder path or the grass plot, and their exercise for the development of their powers, in one direction or another, are engaged in solely with a view to complete their preparation for some forthcoming contest. Although these exercises undoubtedly conduce to a healthy habit of body, sound mind and strong, muscular limbs, yet, beyond this very great gain, athletics as such fulfil no purpose of value to the community at large, and, least of all, an economic one. The cycling sport, on the other hand, has an economic side, which in real value, in its relation to every-day life, far exceeds the merely competitive developments of the pursuit; and were cycle racing, in all its branches, utterly abolished to-morrow, the interest in, and more particularly the practical value of the sport, would still continue unabated, owing to the fact that it possesses certain solid advantages, which really constitute the life and soul of its particularly vigorous and healthy existence. The economic side of the sport so much insisted on may be found in the practical use of the wheel in daily life; its hygienic value as a means primarily of healthy exercise is recognized and proved by the personal and practical experience of millions of people throughout the world, to whom a little exercise, combined as it is with a little pleasurable and stimulating excitement, is of the very greatest value from a medical point of view. Last, but not least, must be considered its great convenience to the stern business of life, whether as a means of economy in time or money.

RIDING.

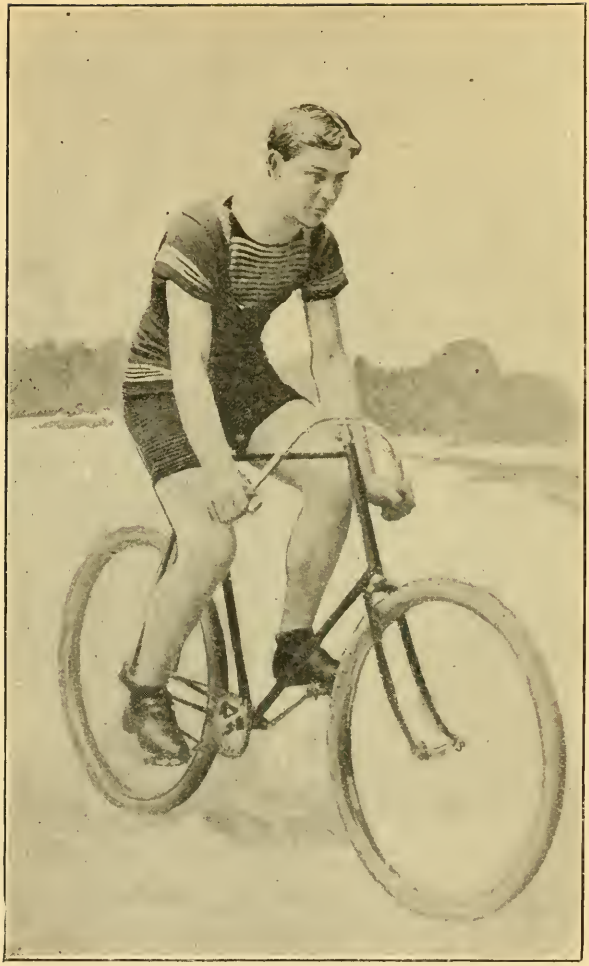
The first necessity for the learner in the art of bicycle riding is a machine on which to make the early efforts, and, in our opinion, there is nothing so satisfactory as an old cushion-tire safety for learning to ride; it is very low; in fact, the rider should be able to touch the ground on either side; the shake of

JOHN S. JOHNSON.

the machine, too, diminishes the effect of contact with the curbstone or brick; and it is remarkable with what pertinacity the beginner will make for a brick or other awkward looking obstacle which may come more immediately within his agitated purview when there are acres of clear road around him at his disposal.

The practical assistance and advice of a friend or attendant will go a great way to getting over the more serious preliminary difficulties of the work. Instructors are to be found in most big towns throughout the country. There are acadamies where cycling is taught in a complete and satisfactory manner, and it is, without doubt, by far the best method of acquiring the art, for the attendants and instructors have had, in most cases, plenty of miscellaneous experience in the task which they undertake, and are thus enabled to bring their charges safely through the ordeal without any serious or unnecessary damage. Some pupils are, of course, more or less clumsy than others, and, although we do not give much credit to the oft-told stories of men who simply take a bicycle, jump upon it and ride off without any previous experience of the machine, yet, on the other hand, we do know of many cases in which a careful and painstaking instructor has taught a beginner to ride, mount and dismount in three separate lessons of half an hour each. For this reason we advise the would-be bicyclist, if possible, to get a properly qualified teacher.

It frequently happens, however, that the cyclist does not reside near enough to any of the cycling academies to undergo the regular course of tuition, and is constrained to fall back upon his own resources to acquire the desired accomplishment; and, arduous as the task may appear, many men have triumphed in very short time over all the difficulties which present themselves. As actual experience is always the best guide, it will be well to relate the course taken by a well-known rider, who taught himself enough in the course of a few hours to make bolder and more practical essay upon a convenient and quiet piece of road. Procuring an old machine he took it into the lawn, where a horizontal bar had been erected. Standing beneath the bar he, with its assistance, got across the machine with one pedal in a convenient position and then, steeling himself for the effort, let go of the bar—which had been firmly grasped with one hand—thrust wildly with his foot at the descending pedal, grasped the handle and, shooting a couple of yards or so away from the bar, fell ignominously sideways upon the turf. The struggles went on for nearly three hours, off and on, a white stone used to mark the furthest point reached until the whole length of the lawn was covered without



TOM COOPER.

a mishap. A modification of the same plan may be successfully adopted by the solitary learner. A stout rope, stretched between two trees or any overhead point on which the learner can secure a firm hold which will enable him to sit upon his machine and place himself comfortably in a position for a fair start. The rule for steering is exceedingly simple, but its difficulty to the novice lies in the fact that, despite its extreme simplicity, it requires the rider to take instantaneously the exactly opposite course to that which his natural impulse suggests. Supposing a rider feels himself falling to the right, the natural impulse will cause him to turn away from the direction of the threatened danger—a course which is instantaneously fatal; the rule, which is emphasized by italics, runs as follows; "*Turn the steering wheel towards the side to which the machine is falling.*"

For example, if the rider feels himself falling to the right he should pull the right handle towards him and push slightly at the left handle, and after a swerve or two and a stagger towards the opposite side, the balance is regained. Of course, at first there is a strong and natural tendency to overdo this corrective action, so that the beginner who turns his wheel sharply to the right to counteract an impending fall to the right finds himself the next moment falling to the left, owing to his having overdone this turn; and then, getting into a wild and flurried state, of course he falls. A capable and expert rider keeps his balance by following exactly the same rule, but the corrective turn of the wheel is infinitesimal, as the balance of the body co-operates to a very great extent with the maintenance of the equilibrium by means of the steering. The natural tendency of the beginner, as pointed out, is always to turn his wheel the wrong way, so he should keep repeating to himself the maxim: "Turn the wheel towards the side to which you are falling."

TOURING.

There is little doubt that by far the largest number of active cyclists find their pleasure in touring on their machines. The racing man has to undergo an elaborate and strict preparation, marked by many rules and precautions, and although his enthusiasm may carry him through, yet it must be admitted that, for the most part, the work is very severe. On the other hand, the pottering cyclist who never ventures far from home has no idea of the enjoyment to be found in country rambles on the wheel. Many men are precluded by business engagements or physical incapacity from indulging in the fierce joys of competition; but the touring field is practically open to any rider

L. D. CABANNE.

who has the time to devote to it, and the number of quiet cyclists who thus spend their holidays is yearly increasing, as the records of many an old wayside inn on the more favored routes will abundantly testify. These holiday tourists, guided by the experience which they have obtained in previous years, or by the advice of their more practical fellows, plan out their trips with an eye to personal comfort, and after a few days of enjoyable riding, return home, invigorated and instructed, and the short tour becomes a fund of lasting amusement, an event to be looked back to with pleasure or anticipated delight.

RACING.

The racing section of the cycling sport presents both advantages and disadvantages to the rider; but there is no doubt that, on the whole, racing has done good service to the sport, and that cycling owes much of its success to the racing man. He is, in fact, largely responsible for its phenomenal development; a development which is far in advance of any parallel growth of sport in this country. Nor is the reason difficult to discover: the successful athlete uses his head; his mental as well as his physical powers are called into play. The successful cyclist, as well as the runner and the jockey, must think as well as act. It is only when sound judgment co-exist with suitable physical powers that excellence in any branch of athletics is obtained.

The first thing that a man who decides upon taking up bicycle racing should do, is to take competent medical opinion as to his capabilities for the work. And we would venture to suggest that the intending racing man should ask the opinion of some medical man, who is also a rider or an athlete in some way or other. We say this simply because some medical men set their faces against the sport without taking the trouble to consider the question at all. They arbitrarily assert the danger of cycling, and threaten the would-be cyclist with all sorts of pains and penalties if he rides. Some medical men—their number are becoming daily fewer—assert that the sport is especially productive of hernia, although long experience has shown not only that this is seldom or never caused by cycling (unless a severe fall produces it), but that persons suffering from it can yet ride and cover long distances without any trouble or suffering. It is for this reason, therefore, that it is suggested to the novice that he should go to a doctor who has some knowledge of athletics. It is well, too, for the prospective racing man to consider whether there are any drawbacks which may prevent his success. Varicose veins do not seem so seriously to interfere with the pursuit of the sport as they do with running and walking. The reason is obvious. There is

FRED J. TITUS.

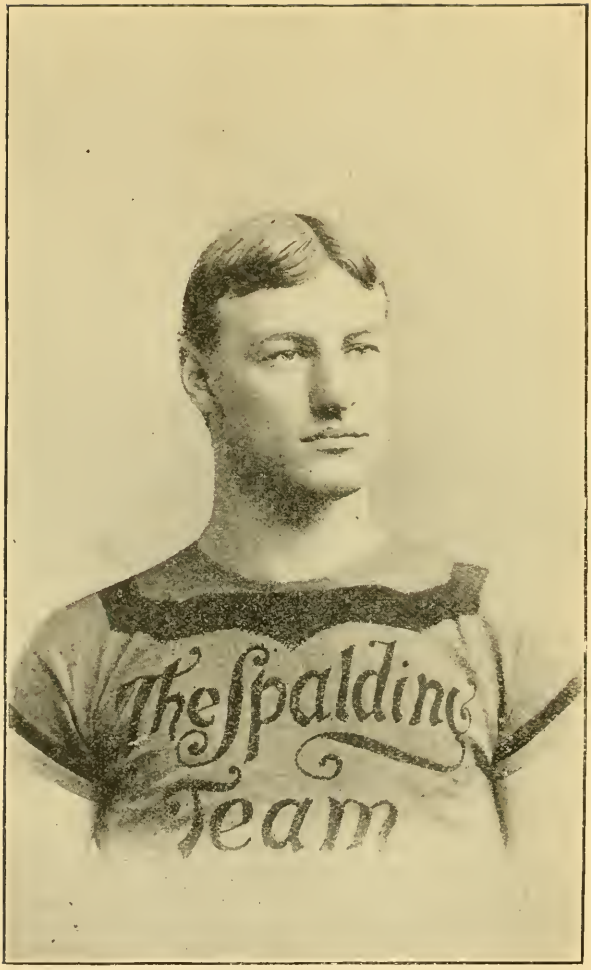
an absence of any direct *vertical* jar such as is experienced in running each time the foot comes to the ground, whilst the action is necessarily smoother, and with the aid of an elastic stocking a person suffering in this way may, in most cases, ride without injury or discomfort. In the same way as was pointed out above, hernia, if properly supported, is no bar to riding or even racing, though the latter is by no means an advisable recreation for those who have the misfortune to be thus afflicted. Myopy, or near sight, is sometimes a great bar to success on the path; the sufferer being afraid to wear glasses in case of a fall, yet being unable clearly to see his opponents, is always nervous or afraid to pass them.

If, after careful examination, a rider has ascertained that he is physically fit for the severe exertions of the racing path, and can undertake the labor without injury to wind or limb, his first step should be a little preliminary work upon a roadster. It is a very good plan for a beginner to race a few times upon his roadster, as he will be well set to the machine, and thus will be enabled to "feel his feet," so to speak, without the dangers which must always attend any one who makes his first essay on the path as a racer. When, however, he has gained a little experience, and can keep his head during the few exciting moments from the crack of the pistol to the crossing of the tape, he may purchase a racing machine; and this he should use in all his practice spins upon the path, so that he may get well set to it ere he ventures upon it in any actual contest.

TRAINING.

Training, as applied to athletes, may be defined as the preparation of the body for new and unaccustomed strains and the gradual fitting of the human frame to undergo the severest physical exertion. The systems whereby this result is sought to be obtained vary greatly in character; some are sensible and practicable; some—and it is to be feared a great number—are very much the reverse. Even now many of the authorities who superintend the preparation of our athletes are ignorant and illiterate, and work by rule of the thumb without any accurate knowledge, guide or intelligence.

The racing cyclist of to-day should do his best to get the assistance of a modern adviser who works upon reasonable and rational lines. The main idea of the modern school is that every precept laid down is to be carried out to the letter. Preparation of the frame and physical powers for severe exertion is not a task which should be undertaken in haste. If a man has but a few days in which to prepare for an important contest, his mentor will do well to keep him off the track altogether, and



WALTER SANGER.

thus let him start quite unfit, so that his miseries may cause him to desist early in the struggle.

To start in a contest when out of condition is a very serious matter, both to the novice and the rider who has been once highly trained. The novice, unless he has once undergone an adequate preparation, may very easily damage or strain himself. The once highly-trained rider is in still greater danger. There is no doubt that in athletics a mental training goes on side by side with the physical development—a quickening of the mind, an enlarged nervous control over the limbs; in short, a reflex action of the mental over the physical powers, which has very much to do with success. Physical training is easily lost; a very short spell of idleness will cause the rider to lose much of his power for sustaining prolonged exertion; he gets fat, and his wind gets short; in fact, all the results on his bodily functions of hard and careful training pass away, and he is "unfit" in every sense of the word. But, although the subject is left with but little of the muscular fitness that once distinguished him, and with skill impaired by want of condition, the mental training remains, and is, to a very great extent, permanent. That supreme command, which the mind in a moment of highly-strung excitement—such, for example, as the sharp finish of a race—brings to bear upon the physical powers, takes considerable longer than mere physical powers to develop; but once developed is very rarely lost. Though the athlete may be physically unfit and out of training, the tyrant mind remains imperative. The flaccid flat-laden muscles, the stiff, unexercised limbs, the clogged and unexpanded lungs, when called upon for a tremendous effort, are not fit for the task and the result is an inevitable breakdown. Lucky is the athlete who, under such circumstances, only strains a ligament or ricks a joint and escapes heart disease or other insidious ills.

A fatal error into which many racing men fall is overwork or, rather, over-competition. Any one who carefully considers the principles of exercise and training will see that it is impossible for a man to be actually in perfect condition for a long, consecutive period of time. Many riders, by careful and judicious training, maintain a wonderfully high average of condition, but this falls short of their best form.

The first thing every trainer should do when he takes a man in hand is to weigh him, and make a note of the exact weight, stripped. He should then consider whether he is fat or not; if of spare habit, he will not require nor, indeed, endure so much hard work as another who carries a superfluity of adipose tissue. The track chosen for his work should be of easy access,

A. A. ZIMMERMAN.

safe, with easy corners, and, if possible, he should secure a companion or two to assist him and ride with him. He should visit the track twice a day, about 11.30 or 12 o'clock, when he should take half an hour's steady work at half speed. As soon as the half hour has expired, let the rider dismount and, without loitering, go straight into the dressing room and sit in a corner out of the draught, put a towel around his neck and remain quiet. In a few moments profuse perspiration will follow; and should be encouraged by a gentle friction with a towel folded over the hand, while, if a rubber is present, he may, by a vigorous rubbing, set up a glow over the whole surface of the body. A good many rubbers, especially those who have a number of men to look after, hurry the rubbing process, and thus defeat the very object they are desired to accomlish. In nearly every case, under these conditions, there is a second flow of perspiration after the man has been completely dried; when this has been removed, and not until then, the rider may guard against cold by taking a shower bath of cold water. This closes the pores of the skin and precludes the possibility of catching cold; the rider should then dress, preferably in flannel, at least with some thin flannel garment next the skin. In the evening he should revisit the track for the real work of the day. He should essay quarter mile spurts, with an occasional half mile spin, and once a week a regular mile trial against a watch. In doing his work the rider should be careful to note the following points, and see that he is carrying them out: *Always to look where he is going.* This is very essential, especially for a man who trains much alone, as such riders often get unconsciously into the trick of grinding themselves by the edge of the track, and thus in actual competition may run into a man before they can avoid it.

Hold the body still and sit down. A great many riders get up off the saddle when sprinting. This is a serious fault; it unsteadies the steering and diminishes the available power. The arms should assist in keeping the body steady and the saddle should touch always. A very slight grip of the peak of the saddle between the legs will be found of notable assistance in steering round corners.

Don't shake the head. Some flyers of note do wonderful things with their heads when sprinting. It is hardly possible for the rider to watch his opponents and judge his course when his head is in constant motion. The head should be thrown back, the face to the front, almost in the same position of that of a swimmer; it should be held right still over the driving wheel, with the eyes directed well forward.

CHARLIE MURPHY.

HOW TO TAKE CARE OF A WHEEL.

The following interesting remarks on the treatment and care of a bicycle is from the pen of Mr. L. C. Boardman, of the New York *Recorder:*

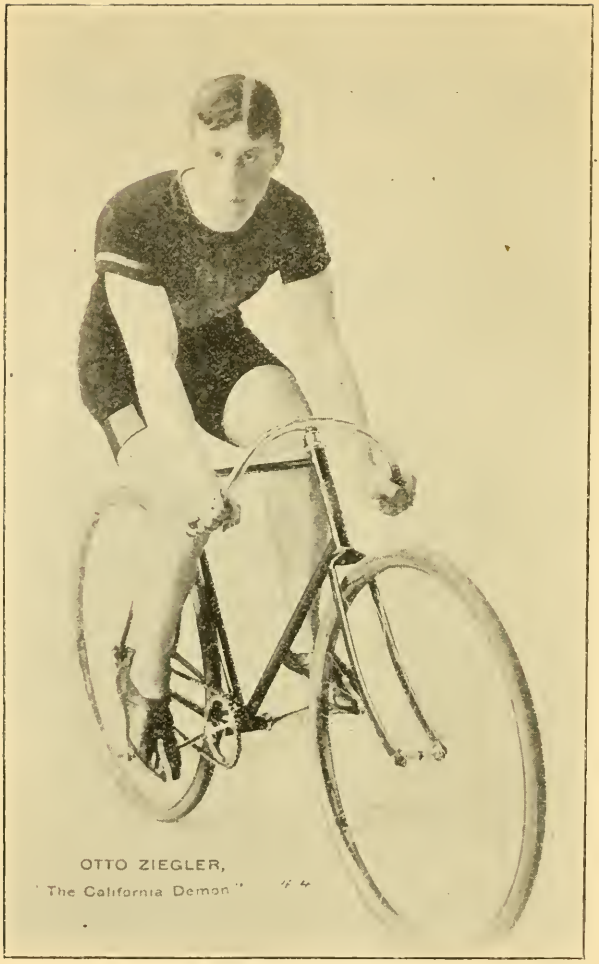
With the advent of the first sign of frost, many cyclists who have not been initiated into the beauty of winter riding immediately proceed to put away their machine for the season, generally relegating it to a corner in the garret or an empty space in the cellar.

When spring approaches and the wheel is brought forth from its place of storage, its condition will bring down heaps of reproach on the poor makers, and cause lots of labor before it resembles its former state.

A good deal of this can be dispensed with if the cyclist would use a little caution before he abandons his bicycle for the winter. In the first place it won't do to throw the wheel carelessly by, but a storage place should be selected in which it will be free from dampness. Dampness causes rust and rots tires. In many cases, however, the cellar is the only place available and must be used. When so, it is a good plan to make a bag out of flannel sufficiently large to envelope the entire machine, save handle bar and pedals, which, of course, ought to be removed. Tires of any make will deflate when allowed to stand for any length of time, and whenever possible it is always advisable to suspend the machine in mid-air. This can easily be done by the use of ropes hung from the ceiling or walls. In fact, many careful riders suspend their wheels at all seasons by means of two loops, which can be attached to the handle bar and saddle.

The bright parts of the wheel should receive a liberal application of vaseline if you want the original brilliancy of the nickel to be retained.

A cause of lamps smoking, which few riders ever think of, is the angle at which the lamp is tilted when on the bracket. If the spring is loose the lamp will tilt slightly forward, the flame coming in contact with the reflector, and an ill-smelling smoking flame will be the result. A wick saturated with vinegar before being brought into use will tend greatly to prevent smoking.



OTTO ZEIGLER.

A half a teaspoonful of salt added to kerosene oil will prevent the light from easily jolting out, besides increasing the brightness of the flame.

Every time a lamp is refilled with oil a thorough cleaning should be given it and the wick trimmed. This necessitates only four or five minutes' extra labor at the very most, and yet how seldom it is that a clean lamp is seen. The accumulation of dirt and soot in the lamp and on the burner, besides making it disagreeable to handle and dimming the brilliancy of the light, is often the cause of much smoke and a sickening odor.

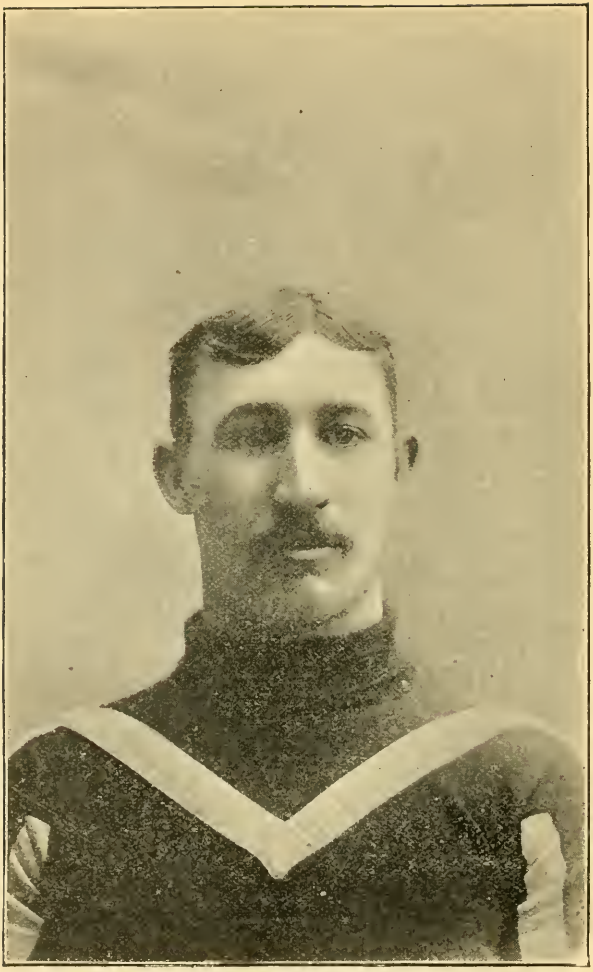
If a light is turned low, when not in use, the lamp will not accumulate soot to such an extent as the flame which burned brightly, without smoking, when riding rapidly along, but it will become smoky and ill smelling when the motion ceases and the air pressure decreases.

One of the pet aversions of the average cycle repairer is to put the lock nut on the chain pin, and, having put it on, to burr it. Endless accidents have been caused by this peculiarity on the part of repairers, and a world of trouble. The lock nut may not be absolutely necessary, and the burring is often all sufficient, provided the pin is short and comes up fairly flush with the chain block, but without the burring a mishap is almost certain to occur sooner or later. If the pin only slips one side of the chain, the result may not be serious to the rider, and will result only in straining and bending the chain; but if it slips both, as sometimes happens, and the rider is unprovided with a brake, he may not come off so lightly. It is therefore well to see to it that the pin is actually burred before riding the machine.

A novel method of cleaning a cycle chain is by burning it. The chain is saturated with gasoline, which is ignited. After burning, the chain should be well oiled.

While no other part of a machine has the anathemas poured on it as the chain, when it suddenly displays a tendency to part in the middle of a long, steep hill, it must be said that in the great majority of instances where chains snap it is due to the carelessness or the ignorance of the persons who are using them. When the chain stretches tight over the sprocket wheels, the extra power applied when going over rough roads or pushing up a heavy incline, the risk of breaking is great and unpleasant riding is the result. A chain with plenty of slack will be found a great advantage for miscellaneous riding, even though it will once in a while ride the cogs.

Many are the methods employed by the wheelmen to overcome the perversities of the chain, which generally displays its



HARRY MADDOX.

idiosyncrasies at the most inopportune moments. Some riders make a practice of reversing the chain once a month. This will make the chain wear more even, but will prolong its life but little.

A simple manner in which to repair a puncture of a single-tube tire, if it is not a difficult one, is to insert a nozzle to which a tube of cement can be attached in the puncture. Then turn the wheel until the puncture is at the lowest point, when a drop or two of cement must be injected. Immediately withdraw the nozzle while the cement is still running, so that all sides of the puncture will be coated with cement. Wind on a half-dozen turns of tire tape and inflate, still having the puncure down, in order to keep the cement over the puncture,

The tire should be blown up very hard and then ridden for about half an hour. In twenty-four hours the tape can be removed, and the tire will be found intact. It takes only about three minutes to fix a puncture by this method, and if instructions are vigorously adhered to it is always a success.

Very often a rider will find it difficult to force air into the tire, even with the aid of a large foot pump. If, after the nipple of the pump is screwed to the valve, the middle section of the valve is loosened a little, the air may be forced in much easier, and with less exertion. Care should be taken though to screw the valve tight before the pump is removed from the nipple.

When a pump works hard it is usually advisable to put a little oil along the piston-rod. The good effect will be instantaneous, and the much-dreaded pumping will be almost a pleasure.

When in distress, a number of unique methods have been tried for putting the tire in ridable shape until the return journey is completed. Chewing gum has been often found an efficient means of holding in air, when bound tightly with cloth or, better still, tire tape.

If a tire is cemented to the rim so that it is very hard to remove it without tearing the rubber, it is well to force a little benzine in between them, which will soften the cement and loosen it sufficiently to remove the tire with safety.

Many riders complain of their tires deflating after two or three months' use without any apparent cause, and lose a great deal of time trying to find punctures that do not exist. If cyclists would remember that valve rubbers need replacing now and then, this trouble would not be experienced, as the valve rubbers either shrink or swell, and the air escapes after a length of time. It is well to establish a system in this

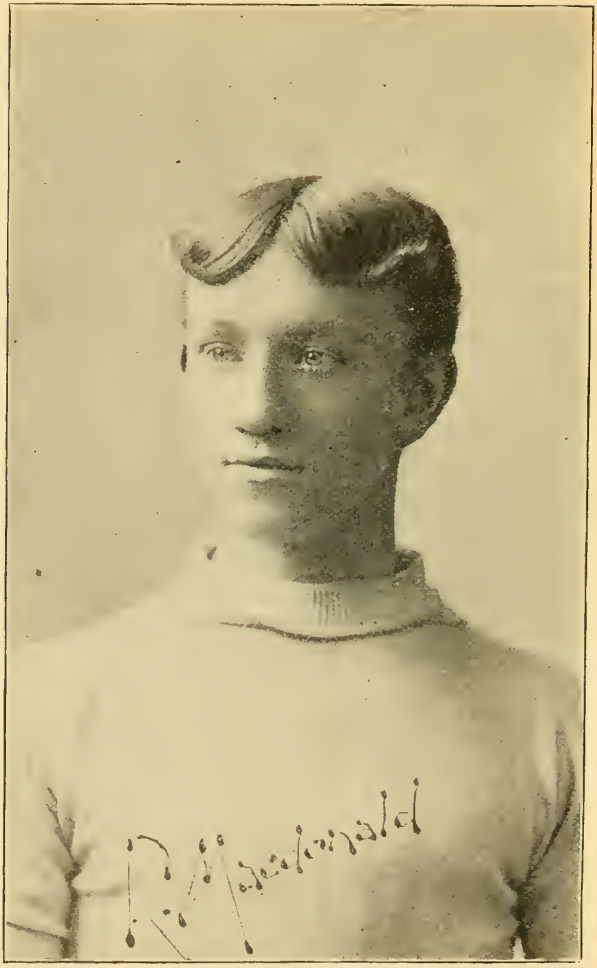
G. A. PHILLIPS.

respect by replacing the valve rubber washers at least once a month.

One feature of single tube tire repairing that should be known to every rider of that class of tires is the proper setting of the plug patch in the puncture hole. The method of operation is simplicity itself, and it is surprising that so few riders realize the importance of a properly made repair enough to give it the study it deserves. The single tube tire readily commends itself to the majority of cyclists because of its simplicity and well-known riding and wearing qualities, and its method of repair are kindred features. In setting the plug patch care should be exercised to make sure that it is free from dirt, and that its cemented surface lies flat against the inner surface of the tire. This can be successfully accomplished after the insertion of the plug by pushing the stem of the cement tube into the puncture hole alongside the plug, and squeezing an ample supply of cement against the patch to moisten its surface thoroughly. The patch must then be revolved many times by grasping it by the projecting plug, which will spread the cement evenly, before inflating the tire. This is an essential point in the repair of single tube tires, and should never be omitted to obtain a permanent repair. The plug patch used should invariably have as large a patch surface as can be pushed through the punctured hole, and should be as thick at the edge as at the centre. Any other kind has no tenacity, and will not give permanent service.

The exercise of proper care in estimating the size of plug patch required to repair a puncture in a single tube tire will be found of great value to the amateur repairer. The tire is often condemned when the plug does not hold, when in reality the fault lies with the inefficient repairing material used. A plug with a blunt-edged patch is the only kind fit to make repairs with, and the patch should in all cases be of as ample area as the aperture in the tire will admit of inserting. A mistake too commonly made is the application of a thick plug with no patch base. Common sense should tell the user that these will not hold. The single tube tire can be repaired, both easily and permanently, but not successfully, with valueless material.

Cementing a tire to the rim is a task generally left to the repair man, as the thoughts of the trouble attached to heating the cement and preparing it for use are enough to make the average person forego any desire to try the job himself. A way to cement a tire to any kind of a rim without heating the cement is by taking hard red cement, grind as finely as possible and let it stand for several hours in a large-mouthed



RAY McDONALD

bottle, first having covered with benzine. An occasional shaking should be given it, until the cement is thoroughly dissolved, when it is ready for use. The rim should be cleaned with a cloth saturated with benzine, and a heavy coat of the cement applied to the rim with a brush. Then apply benzine to the part of the tire that sets in the rim, put on the tire and inflate hard. A tire cemented on the rim in this manner will never work loose. In order to remove it, benzine should be forced under the tire to soften the cement. The application of cement will suffice for any number of tires, as, once on the rim, it always remains. To keep this cement ready for use, it should always be corked.

In wet weather tires should receive more than usual care, as the liability to puncture is much greater. It can be noticed that when tires are wet, they easily become depressed, and marks, nicks and splits appear on the surface of the rubber. The rubber is in many cases denounced as being of inferior quality, when in truth the best kind of rubber is more apt to sustain injuries than inferior class.

Single tube tire punctures are divisible into two distinct classes—the simple puncture, which penetrates the thread or exposed portions of the tire, singly, and the complicated puncture, which not only penetrates the exposed portion, but extends its destructive influence by wholly or partially penetrating that portion of the tire which is cemented to the rim. The simple puncture is easily treated by the ordinary repairing methods, and the complicated puncture in nine cases out of ten will yield to a simple but effective treatment—namely, the insertion of a liberal supply of liquid cement through the outside puncture against the inner injured part. This can be effectively spread by compressing the deflated tire together and gently rolling it by the action of the thumb and fingers. It is better to do this after you have your plug patch for the outside puncture in position, as the tire can then be quickly inflated and the cement forced into the crevices by the powerful air pressure. The cement tubes that have a hollow stem for the insertion of the liquid are especially adapted for treating this class of puncture.

To compare the rigidity of the bottom brackets in two machines, says *Scottish Cyclist*, the best plan is to get a friend to sit in the saddle of each in turn, and press with the full force he would exert in hill-climbing on the pedal, the machine being held erect and prevented from moving forward. By stooping down behind and getting the eye in line with the two chain wheels, it will be fairly easy to see whether the front

FRED C. HOYT.

chain wheel is thrown out of truth to any material extent. The pedal should not be at the top or at the bottom of the stroke, but on a level with the crank axle. There will then be a double-twisting strain on the bracket. The pressure of the foot on the pedal will tend to twist it vertically and the pull of the chain will tend to twist it horizontally. A simpler but less exact way of testing the rigidity of the bracket is to place the foot on one end of it and shove, and see whether the tubes which support the bracket give appreciably. But it should be remembered that no such thing as absolute rigidity is attainable in the frame of a bicycle, and the object of such tests as the above should be rather to compare the degree of give in different machines than to find one which has no give at all.

Although the pedals perform much less frictional work than the bearings of the ground wheels, it is advisable to oil them each time the machine is lubricated, as pedals are generally far more liable to gather up dust than the other bearings, and frequent lubrication is very often the only convenient means of keeping them fairly clean.

Tall riders, who are not fortunate enough to possess up-to-date mounts, very often ride with the handle bar stem and the seat pillar extended up to the furthest point. It is an awful risk to ride a wheel thus, as there is always a possibility of the bar coming out altogether. A seat post should be at least 3 or 4 inches in the socket, and 2 or 3 inches of the handle bar stem should remain covered.

Riders should never go out for a day's journey without first wiping off the chain, and then lubricating it with graphite or some similar compound put up for the purpose.

The oil-hole caps on a wheel should never be let slide around in such a manner that dust can force its way into the bearings, and, with the oil, form a paste that makes the wheel run perceptibly harder.

For wet weather, when mud is plentiful, the chain will be better for a lubrication of castile soap. It should be applied in the same manner as a stick lubricant—rubbed on the inside of the chain. The chief advantage, however, is that at the end of a journey, when the chain is pretty well clogged, it can be easily cleaned by sponging with water.

Fewer cyclists would be forced to walk or take a train home owing to the loss of a nut or two if they made a practice of trying each nut before starting on a ride.

If you have occasion to remove the rear wheel do not be satisfied, when you return it to the frame, if the adjusting

JAMES G. BUDD.

screws are even, that the wheel is all right. Often when such is the case the wheel will run very untrue, whereas if the screw on one side is either tightened or loosened a little the wheel would be perfectly true. This is caused by a slight bend in the axle.

A rider who displays sufficient ingenuity to have his bell on the inside of the handle bar, instead of on top or in front, is indeed a rarity. Yet the sole cause of bells ecoming cracked and out of order is the great amount of knocking they receive. Every time the wheel falls or is let rest against anything hard it is generally the bell side of the handlebar which is turned in, and the bell soon loses its tone and loudness. This would be obviated if the bell was on the inside, as the inward sweep of the handle bar would protect it. Another advantage is that the bell could be placed on the right-hand side, and be rung by a simple downward pressure of the thumb.

One of the most foolish things a rider can do is to try and propel his machine if any balls are broken. This is quite frequent, but can easily be told by both the hard running of the machine and the grating noise which will emanate from the portion of the machine in which the break occurs. As soon as it is discovered the wise method to pursue is to remove the broken parts at once, as, if left in, they will destroy the cones by wearing a groove in them. It is a simple matter to take the bearings apart, and the absence of a ball or two will not affect the running of a machine greatly. The balls taken out, though, should be replaced as soon as possible.

Whenever the brazing at the bottom bracket, fork crown or at top of perch tube starts to loosen, it is a signal of distress. A rider takes his life in his hands, to a great extent, by attempting to ride a wheel with loose brazing, as it is only a question of a short while before the smash occurs. As soon as noticed it should be brought to a repairer—one whom you know has a good brazing outfit and is able to rebraze it properly. If you are on the road when it first shows itself the machine should be ridden only as far as the nearest railroad station and only at a slow pace, as the strain on a machine to get up speed would probably be fatal to the injured parts.

The hard running of a machine is often attributed to various causes which are far from right. Few riders ever think of adjusting the bearings of the crank axle, and many machines have been noticed with these bearings far too tight for ease of running. These bearings should be tried frequently and be adjusted the same as the bearings in other parts of a bicycle.

When a nut repeatedly forces its way off a screw, owing to

ARTHUR GARDINER.

the wearing of the thread, it is a good plan to cover the thread with rosin before screwing the nut tight. Before putting on the nut, however, it should be slightly warmed.

The creaking sound so often heard in a bicycle emanates from the wood rim, and is caused by loose spokes. It should be attended to at once, as there is great liability of the wood rim splitting, causing, perhaps, a serious accident.

To take off a sprocket which is fastened on very tight, the hub should be heated and dipped in water, and then gripped in a vise. The sprocket should be struck, not too hard, with a brass or copper punch. Always be sure in such a case to have the lock screw removed beforehand.

Bent cranks are best straightened by the use of two large wrenches, fitting one on each side of the bend, and bringing them together with a firm, steady pressure.

A piece of a barb-wire fence will be found an excellent substitute for a chain rivet in case the chain should snap on the road. If a link breaks it can be removed entirely. This will shorten the chain, necessitating a readjustment of the rear wheel.

A correspondent in the *L. A. W. Bulletin* presents the following formula as a proper mixture of oil for lamps: Take a bottle which will hold a pint, fill it two-thirds full of the best lard oil, and the balance with head-light oil; also add a piece of gum camphor about the size of a small egg, which, being broken in small pieces, easily dissolves. This preparation gives a nice white light, does not char the wick, and will not jolt out.

Never have a new thread cut on a pin or bolt if it can be avoided, as it weakens the part which is re-threaded, and the process means the removing of a certain amount of metal.

There are very few wheels ridden that are not a little bit out of true. It is not a very easy job to true a wheel perfectly, and, unless the rider finds it uncomfortable in such a condition, it should not be tampered with, unless the machine does not steer well, or if the rear wheel feels as if it were being dragged. Then, if the wheelman is not sufficiently confident of his ability, a good repair man should be intrusted with the job.

A true wheel is an incentive to easy running, but it is a fact that few wheels are exactly true. Riders are satisfied if the wheels do not touch the rim; when, if they only knew it, the running of the wheel could be considerably increased by the tightening of a spoke here and there.

Another thing which is often the result of loose spokes is a broken rim, or, if steel, a badly bent one. This can be easily

O. A. GALE.

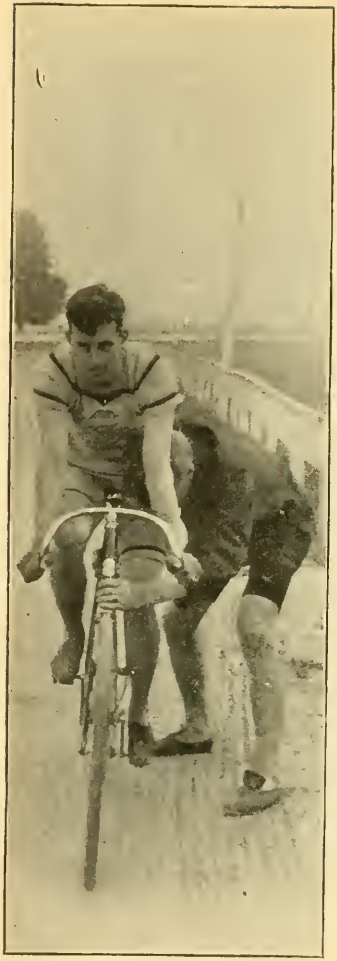
understood, as the rigidity of the wheel depends entirely on the spokes, and if these be so loose as to be an insufficient support to the rim, the slightest shock is liable to shatter the rim.

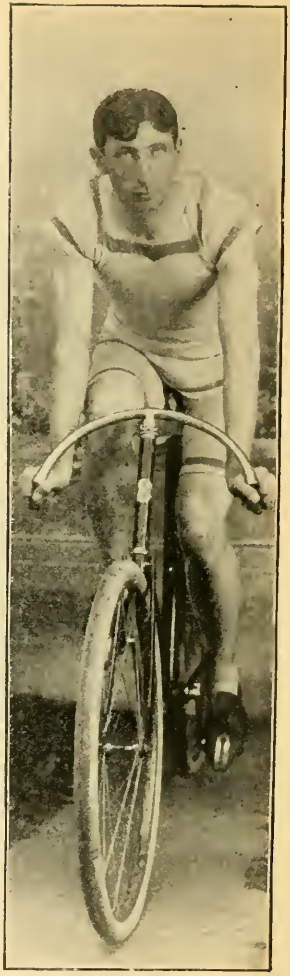
A wheel should never be ridden once it rubs against the frame in any spot, as the tire will be quickly worn through. The damage thus done is irreparable, and will necessitate a new tire.

Several of the 1895 model had sprockets with crank attached, which screwed onto the axle. These are are efficient and strong, but there is one dangerous thing about them. This is, they will not admit the rider to do any back pedaling, as the power thus applied will tend to unscrew the sprocket, which, once loosened, will soon come off. Such a predicament, especially if coming down a steep hill on a brakeless machine, would not be an inviting one, as, sans pedal and brake, all attempts to stop the momentum would be futile, unless, of course, the rider was initiated into the knack of utilizing his foot as a brake.

When the wire which binds the spokes where they cross each other loosens, the majority of riders remove the wire altogether, never realizing that the advantage derived from having tangent spokes is lost. In a tangent-spoked wheel the strain is removed from the weakest point of the spokes—that is, the ends where they enter the hub and rim—and transferred to the point where they cross. If the wire which binds them at that point is removed, the chances of the spoke breaking are greatly increased, and the liability of the rim buckling is much greater.

It is at this season of the year that the enthusiastic cyclist's thoughts turn toward the polishing up of his faithful mount, and the looks of many wheels are forever spoiled by amateurs attempting to touch up and renew the enamel. A wheel does look slovenly when enameled in an improper manner. It should only be done after first thoroughly scraping off all the old enamel, and then be laid on evenly, being careful that it is thickened to the proper consistency, as, if it be thin enough to run, the effect will be disastrous to the general appearance of the bicycle.





C. F. WILLIAMS. CHAS. G. WALLIN.

Two Noted Riders of Erie, Pa.

PEDAL ACTION.

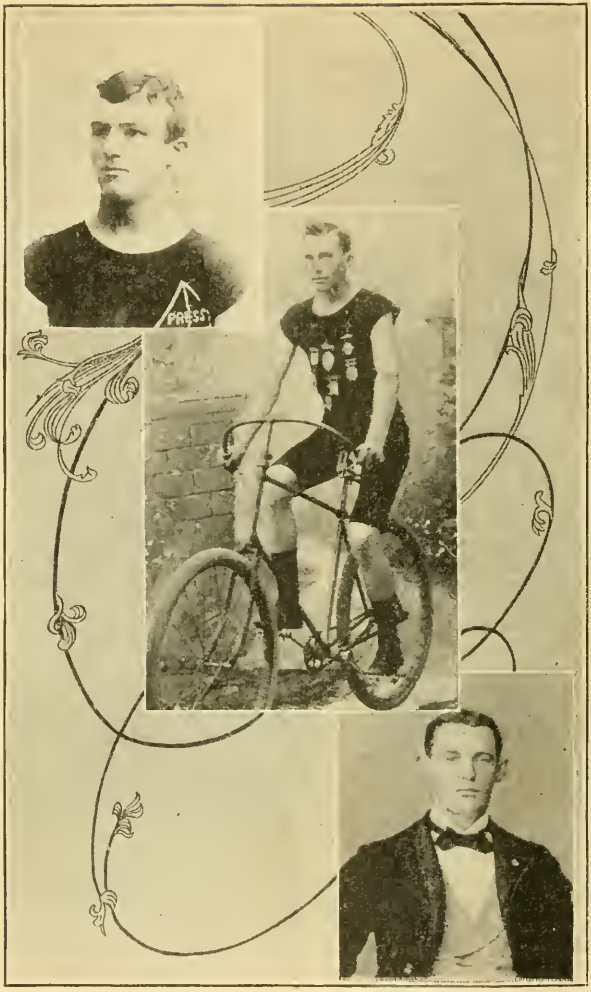
There can be no continuous riding of the bicycle where the rider does not pedal, and yet as essential as pedaling is to cycling the majority of riders know nothing of its proper performance, and apparently care less about it. If the rider will observe the following he will be surprised how little he understands and how much he may learn regarding bicycle riding.

Place the ball of the foot on the pedal, leaving an inch and a half or two inches of shoe sole projecting in front of it. Proper ankle action will add 25 per cent. to the speed that the proper placing of the rider's foot will give him, without in any way increasing the amount of fatigue in its production; but, unfortunately, good ankle action is only the result of study and long practice on the part of its possessor. The object to be sought for by the student of ankling and pedaling is the exertion of a steady propelling force on the pedals throughout as large a part of each revolution of the pedal as possible.

To accomplish this raise the ball of the foot above the heel as the pedal approaches its highest point, then push it forward, exerting a steady pressure through the entire down stroke, gradually lowering the ball of the foot below the heel, so that even at the lowest point you can still maintain some amount of pedal pressure. Avoid the habit of applying pressure as the pedal begins to rise. Each foot should begin its work before the other leaves off, and the upper reach of the chain should always when riding be kept taut.

Practice ankle action alternately with each foot, and then with both of them, riding slowly at first to learn, and now and then asking a companion to note if your chain slacks between strokes. If it does, the chain will more quickly wear out, and there is loss of power besides. A great portion of the knack of riding fast without undue exertion lies in early beginning of the forward-pedal thrust, in acquiring which toe clips will be found advantageous. The backward pull of the pedals, when they are at the bottom of their orbits, will be facilitated by slots in the shoes, which will also help in the forward thrust where toe clips are not used.

For long-distance riding the great essential is to economize your powers of endurance and strength by exerting the smallest continuous pressure on the pedals which will keep them revolving at a moderate speed. Even the expert rider should concentrate his attention now and then on the action of each of his feet, to make sure that they are working correctly automatically, as they should do.—*From The Wheel.*



L. A. CALLAHAN.

G. W. SIMS.

CLINT COULTER.

LONG DISTANCE RIDING AND METHODS.

By F. J. Titus,

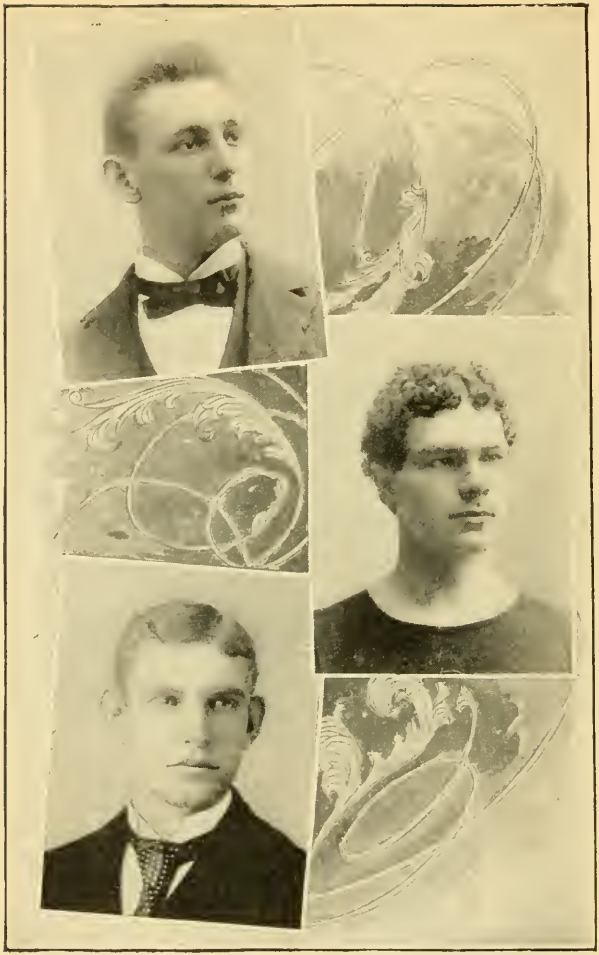
Amateur Holder of the Present World's Record for one hour, viz., 27 miles 189 yards.

Among the twelve foremost riders in America there are but two capable of taking part in sprint and distance racing at the same race meet and they are liable to obtain first, second or third honors. These men are Harry Maddox, of Asbury Park, and Nat Butler, of Boston. In order to be capable of equaling the present records for long distance work it is absolutely necessary to train for such work conscientiously under the supervision of a competent trainer, one who has common sense and is careful not to permit his charge to overwork while in training and one who, when the time comes for the trial, is directive and has under his thumb a manageable set of pace-makers capable of going at any pace required steadily and with judgment, men who have trained just as well in their pace and pick-ups as the aspiring record-breaker. In France and England, where the long-distance race is the proper thing, the men confine themselves to this style of racing—that is, they do not take part in the short-distance racing, but only ride at their favorite distances, which may be five, ten, twenty-five or one hundred miles.

The success of the "Little Wonder," Michael, in France is due to the fact that he made a specialty of distance work, while his competitors kept changing from sprint racing to trials of endurance. He was trained to stand the punishment and knew when to rest and when to go. A man may be ever so good, well trained, etc., but he can never equal or come near the record if the pace is not the best. One may ask what I mean by the best.

At the present day machines with two men up (tandems) are not capable of equaling the one-hour professional world's record of a little over twenty-nine miles, not even if you have all the tandems in the country. What is needed in the way of machines for pacing are triplets, "quads," quintettes, sextettes —say one sextette, three "quads," three triplets are about right to give a rider the world's one-hour record and capable of doing over thirty miles an hour.

To those who do not know the meaning of the above terms, I will tell them. The tandem, as we all know, is a wheel for



FRANK J. JENNEY.

A. I. BROWN.

W. F. TERRILL.

two; the triplet, for three men; the quadruplet, a bicycle for four men; the quintette, a bicycle for five men, and a sextette and a multi-cycle for six men. You may have heard of the Californian nonpulet, a cut of which appeared in a daily paper on November 3, 1895. This was only a myth, not a reality, a vision of some imaginative Californian, and was supposed to carry nine men at the rate of a mile in twenty-two seconds, which, as is shown by the following figures, to be impossible, by applying the natural laws of air resistance and the power of man.

The fastest time ever made by a quadruplet is 1:35; the best possible unpaced mile by a nonpulet would be 1:22, according to actual progression and percentage gained by each man. The laws of air resistance are well known. Take two riders moving along, say twelve feet apart, the second man receives twenty-five per cent. less air resistance than the first man, hence the benefit of pace. At a mile in 1:35 more than sixty-five per cent. of his weight goes for air resistance. The resistance of the wheel on the road is plainly proportional to the speed and a small factor. The chain resistance is a great factor. The average work of a healthy man is fifty-five foot-pounds a second, that is, to raise one pound one foot in one second. For a short time the same man can do 100 foot-pounds and under excitement 140. When W. C. Sanger rides a mile in two minutes the air resistance is 80 foot-pounds. His chain resistance 40 pounds, machine resistance 10 foot-pounds; total, 130. At a 1:35 gait his resistance to the air increases to 135 foot-pounds; chain, 50 foot-pounds; machine, 15 pounds; total, 200 pounds. Thus, one can see that it is impossible for an ordinary athlete to ride an unpaced mile in 1:35. The air resistance alone is more than the average athlete can perform for 95 seconds, but let him be paced, his air resistance is reduced from eight per cent. to fifteen per cent., according to the closeness with which he follows the pacemaker and we only have 110 foot-pounds air resistance, which gives a total of 175 foot-pounds nearer the possible performance of an athlete.

To go a mile in 22 seconds on the nonpulet would require each rider to exert nine horse power, of which eight horse power would be air resistance. The Empire State Express, going a mile in 33 seconds, exerting 200 horse power, had to spend 60 horse power for the air resistance; at a mile in 20 seconds the engine could not develop steam enough for the train to overcome the resistance of the air, without any other resistance being accrued.

It is no small thing for an athlete ordinarily capable under

LAURENS S. MEINTJES

exertion to perform one-fourth horse power, to perform nine horse power for 22 seconds, as is asked of him on the nonpulet, is the wildest kind of an absurdity. The strongest athlete can perform but one-half horse power for 10 seconds at the maximum."

From above we can understand why it is necessary to have good pacing by large and fast machines. This is known and applied by our European cousins, as is shown by their record table, which in trials of endurance surpasses the figures on the slate of all others. It cannot be that their men can surpass the ability of all others if they did not have the benefit of almost perfect pacing. In order to prepare for and overcome the severe punishment attached to a ride lasting one hour, at an average pace per mile of 2:05, it is best to ride two months in all kinds of races and on all kinds of tracks, gradually increasing the distance of the races. Set much of your own pace. This gives endurance. Try an unpaced mile once a week, doing your best at each trial. This will enable you to observe your improvement. Finally, about two weeks before your trial, have pacemakers at the track you are training on begin training in conjunction with your own. Stop taking part in all races at any distance and confine yourself to the ride in view. Ride ten miles in the morning, first two or three unpaced, then have the pacing machines drop in and pick you up. Cover the seven or eight remaining miles at a 2:08 or 2:09 pace. Have the pacemakers practice making the pick-ups. In the afternoon cover some twenty miles at a time, paced most of the way at the rate of 2:07–2:15, finishing with a quarter mile sprint, endeavoring at the time to best the pacing machine at the tape. Always have a thorough rub after each ride, use cold water sponge occasionally above waist to harden the muscles. The legs must be soft and pliable. See that the legs do not cramp, and if they do tell the trainer where and let him rub plenty of goose-grease on that part at night after taking a hot bath, rubbing plenty of liniment on in the morning, wiping clean with a rough towel. Have him pay special attention to the parts that are cramped.

No one knows what a severe test it is to body and mind to ride for one hour without having first tried it. When I say ride for one hour I mean at record speed. If one feels a little nervous before the trial it will aid him to endure much, as he will ride on his nerve and probably succeed in his attempt, with good pacing. The one great difficulty in this country and the only reason we cannot equal the foreign long distance records, is because we have not paid enough attention to pacing facili-

GEORGE A. BANKER.

ties. The success of a trial depends upon the quality of the pacemaking. The pace must be, in order that a man lasts for one hour, very steady. I mean by this that if twenty-nine miles are to be done in the hour each mile must be at an even gait, about 2.05. If a man cannot do twenty-nine miles in the hour his schedule must be slower in order that he should finish.

In my last one hour's record ride, at Springfield, Mass., the pacing was very inferior, ranging from 2:01 at the sixth mile to 2:22 at the eighth mile. Such a jerky pace is sure to weaken the rider and may prevent him from accomplishing his object.

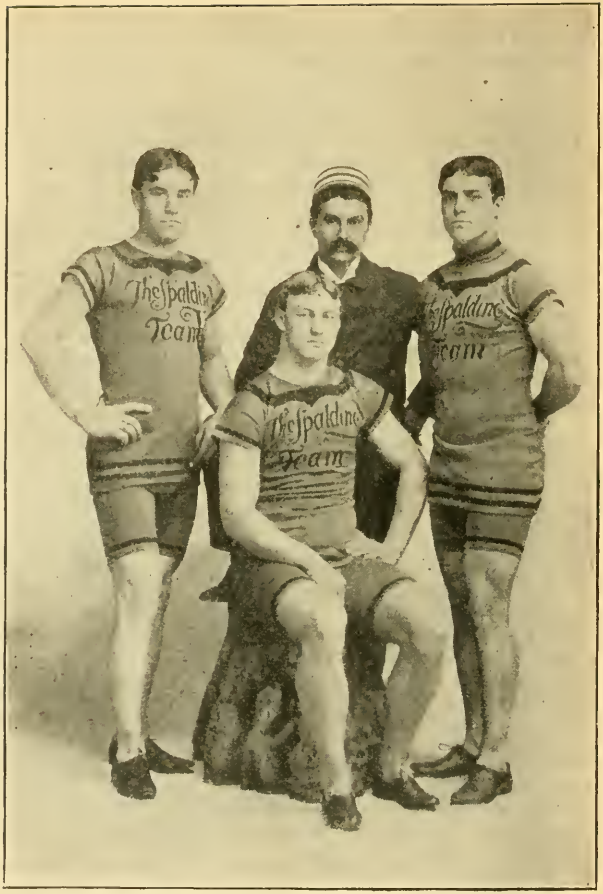
No stimulants are needed while riding. The excitement acts as a strong stimulant. All the attention of the trainer should be given to the making of good connections by the pacemakers. He should have signals known by the pacemakers that they may be slowed up when the pace is getting too fast, or more faster when too slow—in other words he must see to it that the pace is absolutely even and that the man has nothing to worry about.

After the ride is over a little stimulant can then be taken if needed. The man should be immediately covered by blankets, each part dried perfectly, keeping the cold air well away from the chest and other parts. Get the man dressed as quickly as possible, away from the track and curious eyes, to quiet, and thus give his nerves a chance to settle, not permitting him to eat his dinner for at least an hour and a half, getting him to bed earlier than usual.

I trust that the few suggestions above mentioned may be of some service to young riders of ability, as coming from one who has had actual experience in cycle raciug at long distances for the last two years.

It is an established fact that there is no particular rule or stipulated routine that could be universally recommended for the guidance of a cyclist in training. The prime reason of this is that no two men are built exactly on the same lines, and the treatment suitable to one may entirely upset the constitution of another, so it is a case of suiting the physic to the patient's taste. However, there are a number of facts known to modern trainers which every man must stick to in order to be successful on the track.

In the spring—the period a cyclist starts to train—it is absolutely necessary to take a good physic. By this we mean six or seven prescriptions of any reliable purgative recommended by a doctor. This process will rid the stomach of any superfluous bile and consequently the blood will be cleansed and purified. Good blood makes good muscle and strong bone.



A TEAM OF WELL-KNOWN CYCLISTS.

Fred Titus. Walter Sanger. L. D. Cabanne.

Dave Shafer, Trainer.

The cyclist should be especially careful not to overwork himself when beginning the season. It is this overworking that ruins so many ambitious young riders. They are stale and weakened before they know what is the cause and it takes months to undo what could be easily bridged over by a little caution or judicious management.

The tyro should commence with easy, light exercise and keep gradually increasing the length of the daily ride. The first week three or four miles will be sufficient at, say a 3:30 gait, morning and afternoon. With the increasing power the pace should be quickened until the mile can be covered in 2:50. Finally, find your "sprint," "let out" at the end of the journey for 100 or 200 yards. Follow this plan for a couple of

A. H. BARNETT,
Winner of Irvington-Milburn Race, 1894.

weeks, after which the rider will be in a condition to do harder work.

It is a good plan to work two hours after eating.

It is prudent to work into your sprint slowly, as a rider is less liable to strains.

The great secret, in my mind, to be a good rider, is to have plenty of rubbing with liniments, because with a correct massage treatment stiffness and soreness will leave as if by magic.

I have frequently seen a rider come in after a hard race, his energy gone and groaning with cramps. I have seen his trainer take hold of him and perhaps in ten minutes trot him out

FRED H. ALLEN. MONTE SCOTT.

W. DeCARDY.

again without being half rubbed, with the always, repeated injunction to win or die.

The position a rider takes on his machine is another vital point. A great many ride too low a reach, or else too long, or too far forward, or too far backward. There is a happy medium. Turn the cranks of the machine so that they are parallel with the top of your saddle. Then take a plumb-line and move your saddle forward so that the peak is just about 2½ to 3 inches forward of the pedal.

So much has been said and written about the staple articles

H. D. CLEAVELAND.

of diet suitable for an athlete or bicyclist in training that any advice here would be entirely out of place.

The human body is such a true machine, that a trainer who does not study his subject will eventually prove a failure. A great many of these self-styled oracles who call themselves trainers pay no attention whatever to the upper portion of the human frame, and this is a great mistake, for here is centered the human machinery.

J. P. BLISS.

W. C. Sanger also gives some valuable information about preparing for a season's campaign on the path:

"Before doing any work at all the stomach must be got into shape by a thorough physicking, which relieves the system of all bilious and troublesome matter. This leaves the body in a very weak condition, and it must be strengthened gradually, by

HARRY KOCH

keeping very quiet and eating light food, such as milk toast, soft boiled eggs, etc., for a few days, after which time more strengthening food may be taken.

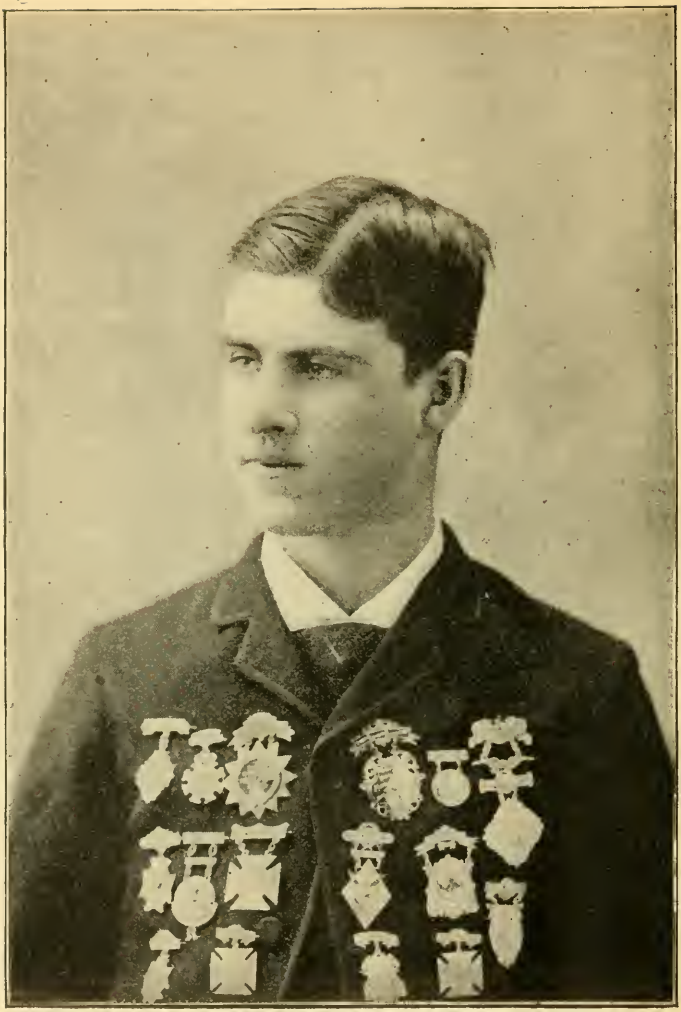
"The first three days very little exercise is sufficient; for instance, three to six miles a day, at about a 3.20 to 3.30 gait.

F. J. OSMOND.

This is gradually worked down day by day, until at the end of a few weeks the pace is brought down to about 2.50. The third week will show a more rapid change in the condition of the man, the miles will be rolled off at about a 2.30 to a 2.35

FRANK E. ORMAN,
Watertown, N. Y.

clip, and the distance by this time will be lengthened to about nine miles each day. A little faster work may now be indulged in, and about one-half mile can be reeled off at about a one-



ARTHUR W. PORTER.

minute clip (paced), to show the condition of the man in regard to endurance. If he is found wanting, he must again return to plugging, while, on the other hand, if he has the required amount of endurance, he may start to sprint a short distance.

"During all this time great care should be taken not to reduce too rapidly, as this will cause the skin to become feverish, but the superfluous flesh should be turned into solid muscle rather than removed altogether. In short, no attempt should

LESLIE HEIMS,
Columbia, Pa.

be made to reduce the man's weight below a medium point, so that at the beginning of the racing season he will have a little flesh to work on, as he will gradually be worked down during the hard season's campaigning.

"It is at this point that the trainer should get in his fine work, turning the superfluous flesh into muscle. After each

C. FORD SEELEY.

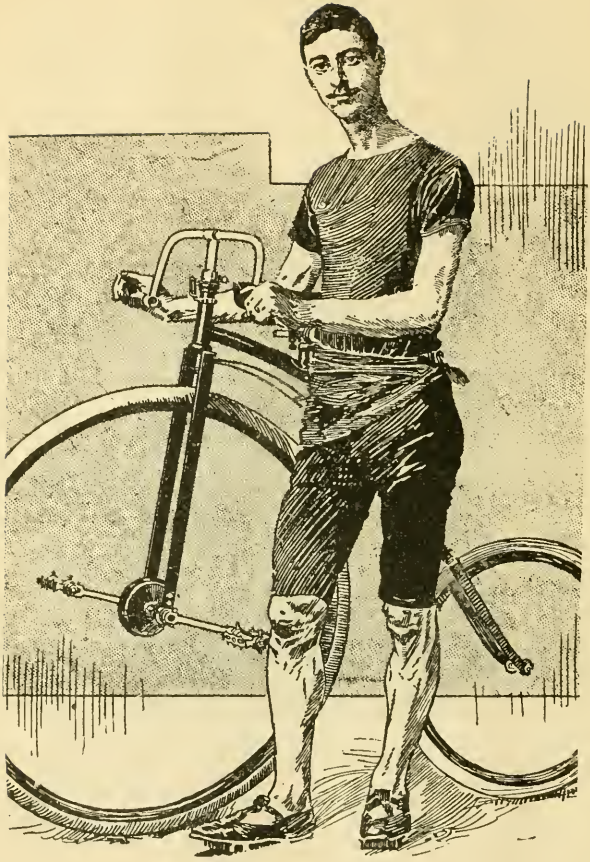
work-out the man should have a thorough drying with coarse towels, followed by a most thorough massage, every muscle being worked and manipulated. The flesh on the stomach, back and loins is rolled in the fingers until the whole body seems to be covered with but a slight layer of flesh sheeting over the muscles. Care should be taken to keep the muscles of the legs soft and pliable, as there is no speed in a muscle that becomes hard.

"After the body and muscles have been put in fine condition, the sprints are gradually lengthened, until the rider is able to

JOSEPH GRAEBER

cut a full quarter of a mile at top speed and finish strongly. Being able to do this, he is in condition to begin the season's campaign, which opens the latter part of May, and lasts until the end of October, when the record season begins.

"A trainer cannot spend too much time with his man, especially after races. Every moment in this work will doubly repay rider and trainer, as the more the muscles are worked the more flexible they become and the less liable to stiffen up



FRANK W. SHORLAND.

or bind after a sprint. The racing man cannot give himself too fully into the hands of his trainer or rely too much on the latter's judgment, provided the trainer is a competent man, as the trainer is working for himself as well as the rider, and the record of the latter's victories and defeats is the record of the trainer's work. The man in training should avoid eating pastries and all kinds of rich food. A little fruit eaten in the morning does more good than harm, and the less coffee or water taken the better.

"This course of training will not apply to all men, as the constitutions of all men are not the same, but this is the course which I shall follow very closely the coming season."

F. P. PRIAL,
American Cycling Authority.

EDWARD C. BALD.

The cycling honors of 1895 belong to Edward C. Bald, the Buffalo rider. He won three of the five national championships of the League of American Wheelmen—quarter-mile, half-mile and one mile. He doesn't go in much for distance racing, else he might have captured the remaining two-mile and five-mile events.

But it isn't the winning of these championships which places him at the head of America's fast riders. The test of speed comes when the racing circuit is in full swing and when horses, carriages, pianos, diamonds, watches and other convertible prizes are incentives for winning Class B races. Then is the time that the wheels hum and the cyclists hump to reach the booty. It speaks well for Bald's supremacy to say that not only did he carry off L. A. W. honors, but he also carted off more money—that is to say, its equivalent—than any other knight of the wheel.

It is difficult to give his exact winnings of the year. But it is said they aggregated $10,000. It is probable that the sum is exaggerated. However, he did exceedingly well for a man who was classed among the second-raters last year.

Bald's strong point is his ability to sustain a prolonged spurt. He is the fastest quarter-mile sprinter on the track to-day—that is, in a race.

Bald was the first cyclist to bring the competition record below two minutes, winning the Class B event at Chicago in 1:59. At the great Springfield meet this fall, when the fastest men in the country were in tip-top trim, Bald was practically invincible, and won his title "King of the Class B Cracks."

In sprint races in which tandems or quads are furnished as pacemakers, Bald's surprising quickness in starting and getting into his riding enables him to catch the pacemaker nine times out of ten, and thus be carried to victory. This advantage is largely contributed to by his handler, Asa Windle, who has no equal in shoving off a rider.

Bald is twenty-three years old and likely to remain at the top for some years to come. If the League of American Wheelmen transplant him, with other Class B riders, into the professional ranks in 1896 he will have an opportunity to try conclusions with Walter Sanger and Johnny Johnson. At present the champion speed rider of 1895 is taking a well-earned rest, as he has been riding almost constantly for two years, having taken in the California circuit last winter.

L. D. CABANNE.

L. D. Cabanne was born in 1870. While yet a lad he took a great interest in athletics, winning in 1886 the championship of the Mississippi Valley one mile swimming match, and defended this title successfully until 1890.

In 1889 he began sprinting and hurdling, and won the Western Association Championship at 100 yards, 220 yards and the high and low hurdles. His record for the 100 yards was 10 1-5, and for the 120 yard hurdles 16 seconds.

In 1890 he won considerable fame as a wrestler and boxer, holding the championship of the State of Missouri for both until the winter of 1894, as well as the State Championship of Nebraska. He was also second in the State Championship of Missouri at trap shooting.

He never owned a bicycle until August, 1893. He rode his first race in December of that year, and made his debut as a Class B man at Springfield, Mo., July 4, 1894, starting in seven races, and winning them all. He made his debut on the National Circuit at Toledo July 26, and made seven world's records during the fall, which were afterwards lowered, with the exception of one—one-quarter mile, unpaced, which stands to-day as a world's record.

He joined the Spalding racing team, and made his first appearance at Louisville May 24, winning the mile event and beating out the tandem in 2:06 4-5. Cabanne was the hero of the day. The following day, at the same track, he secured one first and two seconds.

His next appearance was at Plainfield, N. J., at the opening of the National Circuit on Decoration Day, where Cabanne's riding in the Class B events was the only incident that caused enthusiasm. In the two-thirds mile Cabanne set the pace and won all the way. He also won the mile event.

At Trenton, N. J., on June 1, Cabanne won the New Jersey State Championship for the mile and the half-mile scratch races, doing the former in 2:25 3-5, and the latter in 1:05 4-5.

At Carbondale, Pa., June 2, he won the half-mile open in 2.09 from such good ones as E. C. Bald and L. C. Johnson.

At Albany, on June 5, he secured both the mile open and the two-third mile event.

At Waltham, Mass., he won two seconds; at Philadelphia, one first; at Wilkesbarre, two seconds, and at Buffalo, one first.

The "Adonis" of the track, as Cabanne has been called, is a thorough sportsman. He will always give any of the cracks a chance to beat him, and will never run away to avoid a contest.

That is something that cannot always be said of racers. At the meeting of the Kings County Wheelmen, at Manhattan Beach, he dared one of the champions to race him, but he declined. If he beats a man one day he will give him an opportunity to beat him the next. He has been advised frequently to pick out one race at every meeting and win it, and thus play a foxy game; but he does not look for fictitious honors, and the public appreciate this quality in the young man.

Cabanne, with Titus, was suspended for life by Chairman Gideon, the claim being that they fixed a race at St. Louis.

F. J. TITUS.

Fred Titus' first race was a 15-mile club team race against the Harlem Wheelmen's team of 1893, and in this event Titus ran away from his competitors, winning the race in 36 minutes. His second race was the Irvington-Milburn road race, 25 miles, ridden in 1:17 over that hilly course. Then he won his novice race at the Kings County Wheelmen's meet on July 1, 1893, in 2:41. He next appeared at Rahway, N. J., where he was placed on scratch in handicap events, and won the mile handicap, the record time for track.

At Asbury Park, in August of the same year, he shut "Zimmy" out of the final of the one-mile handicap from 60 yards, riding in 2:16.

The second day of same meet he won the two-mile handicap in 4:45 and ran second to Zimmerman twice.

During the fall circuit he was the cause of much worriment to scratch men, confining himself to handicap events, where he met with considerable success. His most notable ride of the year was second to Sanger, 2:08, from 60 yards mark, at Springfield, Mass.

Early in 1894 he signed with A. G. Spalding & Bros., and it was in connection with the Spalding wheel that Titus made his great records of that year—won all his races—and established for himself a great reputation. He renewed his contract with Messrs. Spalding again in 1895, and his success on the track proves conclusively that he is one of the best riders this country has ever produced.

Titus was not in the best of health during the early part of the season, and in the Irvington-Milburn road race on Decoration Day was compelled to retire from the race at the 10-mile mark in a broken-down condition. After a rest of some little time he started in in an active way at Bridgeport, Conn., on July 5, and in an exhibition mile lowered the track

record to 2.09 1-5. He also secured a place in the mile Class B event.

At Manhattan Beach, N. Y., on the following day, after riding an exhibition mile in 2:15 1-5, he started in the 10-mile invitation scratch race against such men as Harry Maddox and Con Baker, and in one of the most remarkable finishes ever seen in this section of the country, he snatched the race from Maddox in 26:15 4-5.

At Springfield he again lowered the hour record on his Spalding wheel. As a long-distance rider it is doubtful if he has an equal.

WALTER SANGER.

Walter Sanger commenced his bicycle career in 1891. He was not long ere he ranked among the foremost of America's great riders. The first race in which he entered was a two-mile handicap, in which he was allotted 100 yards, and finished second. Soon after that event there were four bicycle races arranged for between the horse races at the Wisconsin State Fair. The morning before the races his father purchased for him a new racer, and on this machine he won all of the races at the Fair, doing the last mile in 2:34½ easily. This finished his first year's racing, and put to his credit four first and one second out of five races.

His father then began to think his boy was of the stuff of which champions are made, and during 1892 took him to a few of the larger cities, the principal of which was Columbus, where he met Buls, Lumsden and a few more of the then crackajacks of the country, and in the half-mile open defeated all by at least 30 yards, but on account of his starter having his toe over the tape, he was disqualified, although he only got away from the tape about eighth.

After that he rode at a few places until, in the latter part of the season, he and his father took a trip to Sarnia, where he met the only Zimmerman, and finished ahead of the "Skeeter" in both the one-half and two-mile handicap from the 20 and 80-yard marks, respectively.

Thus began his reputation as a bicycle rider. He returned home and was put into the hands of Richard Fails, three weeks prior to the Washington Park races, held in Chicago. He was interfered with by some of his competitors in the first race, but appeared ready for business in the two-mile race a few moments later, although he was minus quite a few square inches of skin, which was more than made up for with bandages. He finished first, defeating Tyler, thus adding another feather

to his cap. Starting in 33 races, he put to his credit 26 firsts, 5 seconds and 2 thirds for his second year's riding.

In the spring of 1893 he was sent by his company to England. Although he was not afraid of meeting the cracks of the other country, he never thought for a minute of winning, as "Zimmy" was also bound for the other side.

As it happened, "Zim" was refused a license, although just as pure an amateur, and on the day of the championships, Sanger alone appeared to battle with the English speed-merchants, and only a few moments after the crack of the starter's pistol, the English championship was once more landed to the credit of an American. Before leaving England, "Wally" lowered the English mile record to 2:10 1-5 and the quarter mile to 27 1-5 seconds.

He landed in this country on the 21st of June, and on the 4th of July appeared for the first time in 1893 at Hartford.

He competed in all the important events of the year, among which were the two international races at Springfield, in which he finished first in one and second in the other. Out of six races in which he met Zimmerman, he finished ahead of the Jersey wonder four times. He had the misfortune to fall in the first heat of the L. A. W. meet held in Chicago, and could not appear to defend his rights to the championships of the world.

During 1894 he competed in 39 races, finishing first 22 times, second 7 times and third 4 times, winning prizes to the amount of $5,000.

He signed with A. G. Spalding & Bros. for 1895, and was not the success anticipated. Before he was in prime condition Gideon suspended him, and he jumped to the professional ranks.

JAMES G. BUDD.

James G. Budd, of Glens Falls, N. Y., is, without doubt, one of the best riders Northern New York has yet produced. He is twenty-four years of age, and has been a bicycle rider for seven years. He took to the track in the fall of 1893, where he has since achieved remarkable success. Before the close of the racing season in 1893 he had to his credit 10 firsts, 2 seconds and 1 third, including the Tri-county Championship. In 1894 he won 19 firsts, 4 seconds and 6 thirds, including the Championship of Northern New York, which was won at Watertown, July 4, and a half-mile at Mechanicsville, N. Y., in 1:04, as well as a quarter-mile, unpaced, at Glens Falls, N. Y., September 11, in 27 4-5s., at that time under the Class A record. At Sandy Hill, September 12, Mr. Budd met with

a mishap in having his collar bone broken, which necessitated his laying up for a time. He opened this season June 1, at Cohoes, but a bad fall at Albany on June 5, and a broken collar bone at Saratoga, June 26, necessarily cut this season's work short, but, nevertheless, he has won 13 firsts, 3 seconds and 3 thirds, including the half-mile New York State Championship, at Cohoes, June 11; the breaking of the Class A one-quarter mile standing start paced record in 29 1-5s,, riding a paced one-half mile in 59s., at Glens Falls, August 15; the breaking of John S. Johnson's record of 1:01 2-5 for one-half mile at Troy, August 16, lowering same to 1:00 flat; winning the half-mile open, flying start, in 1.01 1-5, and the half-mile open, standing start, in 1:04 1-5, at Mechanicsville, August 31.

Out of ten races he started in during this week Mr. Budd won 7 firsts, 2 seconds and 1 third. At Schenectady, on September 2, he won the half-mile open in 1:16, finished second in the mile open event in 2:16, and got third place in the two-mile handicap from scratch in 4:59. Mr. Budd holds the track records for nearly all the tracks in Northern New York, and it is to be regretted that such an expert rider as he is, is seriously contemplating retiring from the track, as his duties in connection with the firm of A. A. Budd & Sons, the hustling Spalding agents of Glens Falls, N. Y., of which he is a member, necessitate his devoting his entire attention to the business.

G. A. PHILLIPS.

G. A. Phillips was born May 26, 1874, at Cairo, Ill., and is an electrician by trade, having worked in Chicago for the Western Electric Company, Edison Company and at the World's Fair grounds. He learned to ride a bicycle in the spring of 1892. In July, 1893, he rode from Chicago to Denver in thirteen days, and in August of that year rode his first track race, being defeated, however. He remained in Denver during the following season, competing in all local Class A events, and winning in almost every one, establishing himself as something of a rider. In February, 1895, he returned to Chicago, and went South early in the spring to train. During April and May he did some very good exhibition work at Louisville which attracted considerable attention. He followed the Southern circuit, but, owing to a bilious attack, only won one first, and upon his return from the trip found himself transferred to Class B. His sickness had left him in no condition to compete in Class B, so he accepted a position in Erie, Pa., in the retail store of Leo Schlaudecker, and did his training

after business hours. As he was the only Class B man in that section, he had no opportunity to race until in July, when he joined the circuit at Steubenville, Ohio, staying four days. Although he won no prize, his work was exceptionally good. On July 27, at Columbus, Ohio, he rode an unpaced quarter in 26 seconds, being the Ohio State record, and at that time the fastest quarter of the season. July 28 he took a terrible fall at Mansfield, and had to return to Erie, as he was unable to ride at all for two weeks. After recovering, he turned his attention to road riding for a short time, and on August 18 broke the Pennsylvania State record for fifteen miles in 40:38, and again on August 25 broke the world's road record for fifteen miles in 37 minutes. On September 2 he went to Buffalo for the Globe road race, and won third prize from the one minute mark, riding an 88 gear, although a terrific wind was blowing against the riders on the return trip.

FRED C. HOYT.

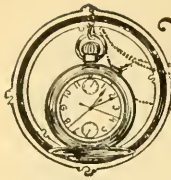
Fred C. Hoyt was born in Greenwich, Conn., December 13, 1874. He is the son of Capt. J. F. Hoyt, who has been a seafaring man all his life, and of late years he has been engaged in the oyster and sword-fishing business. Fred, as a natural consequence, was also more or less on the water, and it is understood along the Connecticut shore that there are a few young men of his age who can handle a sail boat better than he can.

His father removed to Bridgeport some years ago, and has made that city his home since, having purchased profitable oyster grounds off that city. Fred Hoyt, even as a youngster, was noted for his daring and determiation, which qualities have stood him in good stead in his racing career.

He weighs about 130 pounds, stands 5 feet 7 inches high, and is the picture of health. He does not use tobacco in any form, and, although not a teetotaller, seldom drinks anything intoxicating.

Hoyt is without doubt the fastest man in his State, and Brautigam, of Bridgeport, has done a great deal towards making him a local champion.

Both Titus and Sanger have a very high opinion of his racing qualities, and there is a warm friendship exisiting between the three, as all were Spalding riders. Although Hoyt is only a Class A man, and they are in Class B, they often find an opportunity to train together, and, no doubt, help Hoyt with their wider experience.



THE TRACK

BICYCLE RECORDS

Accepted by the L. A. W., December, 1895.

FLYING START—PACED—CLASS B.

Distance.	Time.	Holders.	Track and Date.
¼ miles....	.22 4-5....	W. W. Windle.....	Chillicothe, Ohio, Oct. 29, 1895
⅓ "	.30 3-5....	"	" "
½ "	.48	"	" "
⅔ "	1.09 2-5....	C. R. Coulter.....	Louisville, Ky., Oct. 25, 1895
¾ "	1.18 1-5....	"	" Oct. 4, 1895
1 "	1.42 2-5....	Arthur Gardiner...	" Oct. 5, 1885
2 "	3.48 1-5....	S. C. Cox.....	" Nov. 7, 1895
3 "	5.55 3-5....	Arthur Gardiner...	" Oct. 14, 1895
4 "	7.58 2-5....	" ...	" "
5 "	9.58 1-5....	" ...	" "

FLYING START—COMPETITION—CLASS B.*

¼ mile.....	25 4-5....	H. C. Tyler.....	Hartford, Conn., Sept. 4, 1893

FLYING START—PACED—CLASS A.

¼ miles....	.25 1-5....	A. W. Porter.....	Waltham, Mass., Nov. 2, 1894
⅓ "	.34 1-5....	"	" "
½ "	.53	"	" "
2-5 "	1.18 1-5...	F. H. Allen.....	Springfield, Mass., Sept. 5, 1894
¾ "	1.04	A. W. Porter.....	Waltham, Mass., Oct. 20, 1894
1 "	1.52 3-5....	"	" "
2 "	4.07 2-5....	N. H. Butler.....	Waltham, Mass., July 28, 1894

STANDING START—PACED—CLASS B.

¼ miles....	.28	John S. Johnson...	Minneapolis, Oct. 31, 1893
⅓ "	.39	" ...	" Nov. 6, 1894
½ "	.55 1-5....	" ...	" "
⅔ "	1.14 4-5....	Otto Ziegler.....	Louisville, Ky., Nov. 1, 1895
¾ "	1.24 1-5....	C. R. Coulter	" Nov. 18, 1895
1 "	1.50 2-5....	Otto Ziegler.....	" Nov. 6, 1895
2 "	4.01	John S. Johnson...	Minneapolis, Nov. 17, 1894
3 "	6.09	" ...	" "
4 "	8.15 3-5....	" ...	" "
5 "	10.07 2-5....	C. W. Miller.....	Louisville, Ky., Nov. 7, 1895
6 "	13.43 1-5....	L. S. Meintjes.....	Springfield, Mass., Sept. 14, 1893
7 "	15.57	F. J. Titus.....	" Sept. 13, 1894
8 "	18.15 3-5....	"	" "
9 "	20.27 2-5....	"	" "
10 "	20 45	W. D. DeCardy....	Louisville, Ky., Nov. 6, 1895
11 "	24.59	F. J. Titus.....	Springfield, Mass., Sept. 13, 1894
12 "	27.18	"	" "
13 "	29.33 1-5....	"	" "

* Prior to 1894, Class A only; 1894 and 1895, Class B. Up to January, 1894, all amateur records were in Class A.

Standing Start—Paced—Class B. Continued.

Distance.	Time.	Holders.	Track and Date.
14 miles....	31.50 4-5....	F. J. Titus.....	Springfield, Mass., Sept. 13, 1894
15 "	34.10 3-5....	"	" "
16 "	36.19	"	" "
17 " ...	38.31	"	" "
18 "	40.43 2-5....	"	" "
19 "	42.56 2-5....	"	" "
20 "	45.08	"	" "
21 "	47.21	"	" "
22 "	49.26 3-5....	"	" "
23 "	51.38	"	" "
24 "	53.54	"	" "
25 "	56.04	"	" "
26 "	58.15	"	" "
27 " ....1.11.48 1-5....	*A.G. Harding.....	St. Louis, Mo., Oct. 24, 1894	
28 " ....1.14.24 4-5....	"	" "	
29 " ....1.17.02 4-5....	"	" "	
30 " ....1.19.41 4-5....	"	" "	
31 " 1.22.18	"	" "	
32 " 1.24.53	"	" "	
33 " ....1.27.34 2-5....	"	" "	
34 " ....1.30.23 4-5....	"	" "	
35 " 1.33 04	"	" "	
36 " ....1.35.39 4-5....	"	" "	
37 " ....1.38.23 3-5....	"	" "	
38 " ... 1.41.07 3-5....	"	" "	
39 " ....1.43.43 3-5....	"	" "	
40 " ....1.46.27 3-5....	"	" "	
41 " 1.49.08	"	" "	
42 " 1.51.49	"	" "	
43 " ....1.54.27 2-5....	"	" "	
44 " 1.57.06	"	" "	
45 " ....1.59.38 3-5....	"	" "	
46 " 2.02.10	"	" "	
47 " ....2.04.46 2-5....	"	" "	
48 " ....2.07.26 2-5....	"	" "	
49 " ....2.10.01 2-5....	"	" "	
50 " ....2.12.45 3-5....	"	" "	
51 " ....2.15.27 3-5....	"	" "	
52 " ....2.18.12 2-5....	"	" "	
53 " ....2.21.02 2-5....	"	" "	
54 " 2.23.59	"	" "	
55 " 2.26.44	"	" "	
56 " ... 2.29.26	"	" "	
57 " ....2.32.08 3-5....	"	" "	
58 " 2.35.00	"	" "	
59 " ....2.37.48 2-5....	"	" "	
60 " ....2.40.35 4-5....	"	" "	
61 " 2.43.47	"	" "	
62 " 2.46.20	"	" "	
63 " ....2.49.17 1-5....	"	" "	
64 " ....2.52.21 1-5....	"	" "	
65 " ....2.55.12 3-5....	"	" "	
66 " ....2.57.57 3-5....	"	" "	
67 " ....3.00.44 3-5....	"	" "	
68 " ....3.03.56 1-5....	"	" "	
69 " ....3.06.47 4-5....	"	" "	

*Harding's records are all Class A.

Standing Start—Paced—Class B. Continued.

Distance.	Time.	Holders.	Track and Date.
70 miles	3.09.40 3-5	A. G. Harding	St. Louis, Mo., Oct. 24, 1894
71 "	3.12.32 1-5	"	" "
72 "	3.15.22 1-5	"	" "
73 "	3.18.23 1-4	"	" "
74 "	3.21.32 4-5	"	" "
75 "	3.24.37 4-5	"	" "
76 "	3.27.32 1-5	"	" "
77 "	3.30.25 1-5	"	" "
78 "	3.33.32 1-5	"	" "
79 "	3.36.26 3-5	"	" "
80 "	3.39.21 3-5	"	" "
81 "	3.42.13 3-5	"	" "
82 "	3.45.03 4-5	"	" "
83 "	3.47.53 4-5	"	" "
84 "	3.51.08 4-5	"	" "
85 "	3.54.02 1-5	"	" "
86 "	3.56.54 2-5	"	" "
87 "	3.59.50 3-5	"	" "
88 "	4.02.45 3-5	"	" "
89 "	4.05.42 3-5	"	" "
90 "	4.08.37	"	" "
91 "	4.11.30	"	" "
92 "	4.14.35	"	" "
93 "	4.17.28	"	" "
94 "	4.20.21	"	" "
95 "	4.23.21	"	" "
96 "	4.26.18	"	" "
97 "	4.29.06 4-5	"	" "
98 "	4.32.06 1-5	"	" "
99 "	4.35.05 2-5	"	" "
100 "	4.37.56 4-5	"	" "
100 "	4.27.32	B. W. Twyman	Louisville, Ky.
200 "	10.00.00	"	"
300	16.26.23	"	"
400 "	23.40.02	"	"

STANDING START—COMPETITION.

¼ miles	.28 2-5	A. I. Brown	Decatur, Ill., Oct. 13, 1894
½ "	.41 2-5	E. C. Bald	Chicago, Ill., Aug. 10, 1895
⅝ "	.58 1-5	C. M. Murphy	Denver, Col., Oct. 19, 1895
⅞ "	1.25 1-5	F. A. McFarland	San Jose, July 4, 1894 (Class A)
¾ "	1.33 1-5	H. C. Tyler	Waltham, Mass., Oct. 20, 1894
1 "	1.55 1-5	E. C. Bald	Denver, Col., Oct. 18, 1895
2 "	4.14	C. M. Murphy	Chicago, Ill., Aug. 9, 1895
3 "	6.26 2-5	W. F. Simms	Manhattan Beach, June 15, 1895
4 "	8.37	"	" "
5 "	10.47 3-5	"	" "
6 "	12.59 1-5	"	" "
7 "	16.49 1-2	F. G. Lacey	Los Angeles, Cal., May 18, 1895
8 "	17.17 3-5	W. F. Simms	Manhattan Beach, June 15, 1895
9 "	19.31 2-5	"	" "
10 "	21.39 3-5	H. C. Maddox	Manhattan Beach, June 15, 1895
11 "	26.55 1-2	F. G. Lacey	Los Angeles, Cal., May 18, 1895
12 "	29.32 3-4	"	" "
13 "	32.13 1-4	"	" "
14 "	34.49 3-4	"	" "
15 "	38.05 4-5	L. S. Meintjes	Chicago, Ill., Aug. 12, 1893

Standing Start—Competition—Class B. Continued.

Distance.	Time.	Holders.	Track and Date.
16 miles....	39.53 1-4...	F. G. Lacey.....Los Angeles, Cal., May 18, 1895	
17 "	42.47	"	" "
18 "	45.00 1-5....	"	" "
19 "	47.32	"	" "
20 "	51.18 2-5....	L. S. Meintjes.....Chicago. Ill., Aug. 12, 1893	
21 "	52.43 3-4....	F. G. Lacey.....Los Angeles, Cal., May 18, 1895	
22 "	55.19 1-4....	"	" "
23 "	57.56 3-4....	"	" "
24 " 1.00.37		"	" "
25 " ....1.03.07 3-4....		"	" "
26 " ....1.07.24 1-5....		L. S. Meintjes.....Chicago, Ill., Aug. 12, 1893	
27 " ....1.09.58 3-5....		"	" "
28 " ....1.12.26 1-5....		"	" "
29 " ....1.15.04 2-5....		"	" "
30 " ....1.17.57 1-5....		"	" "
31 " ....1.20.37 1-5....		"	" "
32 " ....1.23.14 3-5....		"	" "
33 " 1.25.50		"	" "
34 " ....1.28.25 1-5....		"	" "
35 " ....1.31.02 2-5....		"	" "
36 " ....1.33.36 4-5....		"	" "
37 " 1.36.14		"	" "
38 " ....1.38.53 3-5....		"	" "
39 " ....1.41.32 2-5....		"	" "
40 " ....1.44.11 4-5....		"	" "
41 " 1.46.58		"	" "
42 " 1.49.39		"	" "
43 " 1.52.11		"	" "
44 " ....1.54.49 3-5....		"	" "
45 " ....1.57.33 2-5....		"	" "
46 " 2.00.20		"	" "
47 " ....2.02.59 ...		"	" "
48 " 2.05.35		"	" "
49 " ....2.08.14 1-5....		"	" "
50 " ....2.11.06 4-5....		"	" "
51 " 2.13.51		"	" "
52 " ....2.16.37 2-5....		"	" "
53 " ....2.19.21 2-5....		"	" "
54 " ....2.22.07 2-5....		"	" "
55 " ....2.24.59 2-5....		"	" "
56 " 2.27.51		"	" "
57 " ....2.30.50 3-5....		"	" "
58 " ....2.33.50 4-5....		"	" "
59 " ....2.36.47 4-5....		"	" "
60 " 2.39.47		"	" "

STANDING START—UNPACED.

⅓ mile....	.43	....S. C. Cox.....Louisville, Ky., Nov. 2, 1895	

FLYING START—UNPACED.

¼ mile....	.25 1-5....	Otto Ziegler.....Sacramento, Cal., Oct. 17, 1895	
⅓ "	.36 1-5....	C. R. Coulter. ....Louisville, Ky., Oct. 2, 1895	
½ "	.55	J. S. Johnson.....Louisville, Ky., Nov. 27, 1894	
¾ "	1.14 3-5...	J. P. Bliss.....Springfield, Mass., Sept. 1, 1895	
¾ "	1.32 2-5....	H. C. Tyler.....Springfield, Mass., Aug. 24, 1894	
1 "	2.00 2-5....	W. W. Hamilton...Denver, Col., Oct. 12, 1895	
2 "	4.42 2-5....	F. G. Barnett.....Louisville, Ky., May 25, 1895	

STANDING START—PACED.

Distance.	Time.	Holders.	Track and Date.
26 miles 1489 yd.	1 hour	F. J. Titus	Springfield, Mass., Sept. 13, 1894
46⅓ "	2 "	B. W. Twyman	Louisville, Ky., July 4, 5, 1895
127 "	6 "	"	" "
232⅔ "	12 "	"	" " "
320⅔ "	18 "	"	" " "
407 " 84 yd.	24 "	"	" " "

TANDEM—FLYING START—PACED—CLASS B.

¼ mile	.24	Johnson-Rigley	Decatur, Ill., Oct. 31, 1894			
⅓ "	.34 2-5	Haggerty-Will'ms.	Waltham, Mass., Nov. 2, 1894			
½ "	.52 1-5	"	"	"	"	"
⅔ "	1.12	Callahan Brothers	"	"	Sept. 21, 1894	
¾ "	1.23 1-5	Bainbridge-Gardiner	"	"	Oct. 24, 1894	
1 "	1.52 3-5	Haggerty-Williams	"	"	Oct. 27, 1894	
2 "	3.53 2-5	And'son-V. Herrl'k	Louisville, Ky., Oct. 14, 1895			
3 "	6.01	"	"	"	"	"
4 "	8.09	"	"	"	"	"
5 "	10.18	"	"	"	"	"
10 "	20.54 1-5	Lund-Von Herrick.	"	"	Nov. 5, 1895	

TANDEM—FLYING START—UNPACED.

¼ mile	.24 3-5	Long-Delmas	Sacramento, Cal., Oct. 48, 1894			
⅓ "	.32 3-5	Bernhart-Goetz	Decatur, Ill., Oct. 26, 1894			
½ "	.55 3-5	Titus-Cabanne,	Denver, Col., Aug. 17, 1894			
⅔ "	1.15 4-5	"	"	"	"	"
¾ "	1.36	"	"	"	"	"
1 "	1.56 4-5	"	"	"	"	"
2 "	4.19	Pugh-Gerwin	Denver, Col., Nov. 29, 1894			
3 "	7.00	"	"	"	"	"
4 "	9.20	"	"	"	"	"
5 "	11.35	"	"	"	"	"

TRIPLET RECORDS.

¼ mile, 23 seconds. Callahan, C. Murphy and Kennedy, Chillicothe, O., Nov. 5, 1894.

½ mile, 40 seconds; ½ mile, 1.00; ⅔ mile, 1.20 1-5; ¾ mile, 1.31; 1 mile, 2.01 4 5. Murphy, Kennedy and Sanders, Louisville, Ky., Nov. 23, 1894.

QUADRUPLET RECORDS.

¼ mile, flying start, unpaced, 23 seconds. Callahan, Seavey, O'Connor, Rhodes. Chillicothe, O., Nov. 5, 1894.

½ mile, 34 3-5 seconds. O'Connor, Hamilton, Coburn, Terrill. Louisville, Ky., May 25, 1895.

½ mile, 51 seconds. Stone, Swanborough, Dickson, Connilear. Denver, Col., Oct. 17, 1895.

⅔ mile, 1.15; ¾ mile, 1.24. O'Connor, Seavey, Stevenson and Rhodes. Louisville, Ky., May 25, 1895.

1 mile, 1.47 4-5. Stone, Swanborough, Dickson, Connilear. Denver, Col., Oct. 17, 1895.

PROFESSIONAL.

STANDING START—PACED.

Distance.	Time.	Holders.	Track and Date.
1 mile.....	1.50 1-5....	John S. Johnson...	Louisville, Ky., Nov. 7, 1895

FLYING START—PACED.

2 miles....	3.43 1-5....	P. J. Berlo.....	Louisville, Ky., Nov. 18, 1895

FLYING START—UNPACED.

2 miles....	4.29	A. F. Senn.....	Louisville, Ky.,	Nov. 2, 1895
3 "	7.16 2-5....	"	"	Oct. 18, 1895
5 "	11.22 1-5....	"	"	"
3 "	7.11	"	"	Nov. 18, 1895
4 "	9.36 4-5....	"	"	"
6 "	14.25	"	"	"
7 "	16.50	"	"	"
8 "	19.15 2-5....	"	"	"
9 "	21.42 3-5....	"	"	"
10 "	24.10	"	"	"
11 "	26.38	"	"	"
12 "	29.08 2-5....	"	"	"
13 "	31.38	"	"	"
14 "	34.07	"	"	"
15 "	36.36 1-5....	"	"	"
16 "	39.07	"	"	"
17 "	41.38	"	"	"
18 "	44.11	"	"	"
19 "	46.44 3-5....	"	"	"
20 "	49.20	"	"	"
21 "	51.35 4-5....	"	"	"
22 "	54.31 2-5....	"	"	"
23 "	57.10 2-5....	"	"	"
24 "	59.54	"	"	"
25 " ....1.02.37 2-5....		"	"	"

One hour, 24 miles 65 yards. A. F. Senn. Louisville, Ky., Nov. 18, 1895.

TANDEM—FLYING START—UNPACED.

5 miles, 11.14 3-5. Charles Kindervatter and Hugh Caperton. Louisville, Ky., Nov. 2, 1895.

FLYING START—PACED.

1 mile, 1.50 1-5.§ Austin Crooks and A. E. Weinig. Louisville, Ky., Oct. 25, 1895.

WORLD'S RECORDS.

As accepted by the Union Cycliste, of France, and compiled from record tables of governing bodies of cyclists in every country.

1. BY MILES. PACED.

Miles.	Time.	Holders.	Track and Date.
¼ flying..	.22 2-5	W. Windle	Chillicothe, Nov. 5, 1895
¼ stand...	.28	John S. Johnson	Independence, Oct. 31, 1894
½ flying..	.48	Foster	Napa, Sept. 20, 1895
½ stand...	.55 1-5	Johnson	Chillicothe, Nov. 5, 1894
¾ flying..	1.18 1-5	Coulter	Louisville, Nov. 6, 1895
¾ stand...	1.24 3-5	Gibbons-Brooks	Catford, Oct. 15, 1895
1 flying..	1.42 2-5	Gardiner	Louisville, Nov. 4, 1895
1 stand...	1.50 1-5	Johnson	" Nov. 7, 1895
2 " ..	3.51	Otto Ziegler	" Oct. 20, 1895
3 " ..	5.53 2-5	Stocks	Catford, Oct. 1, 1895
4 " ..	7.50 4-5	"	"
5 " ..	9.49	Barden	Bordeaux-Parc, May 9, 1895
10 " ..	20.10 1-5	Stocks	Catford, Oct. 11, 1895
20 " ..	40.57 3-5	"	" "
25 " ..	51.27 4-5	"	" "
30 " ..	1.02.01 1-5	"	" "
40 " ..	1.24.20 1-5	"	" "
50 " ..	1.48.38 2-5	Platts-Betts	" Sept. 10, 1895
100 " ..	3.52.09 3-5	Lesna	Paris-Buffalo, Aug. 11, 1895
200 " ..	8.26.24	C. Huret	" June, 15-16, 1895
300 " ..	13.10.37	"	" "
400 " ..	17.44.43	Rivierre	Bordeaux-Parc, July 27-28, 1895
500 " ..	22.42.40	Huret	" Sept. 7-8, 1895

2. BY KILOMETRES. PACED.

Kilometres.	Time.	Holders.	Track and Date.
⅓ flying..	.21 2-5	H. Loste	Bordeaux-Parc, Sept. 17, 1895
⅓ stand...		"	"
½ flying..	.34 3-5	Barden	Paris-Seine, April 28, 1895
½ stand...	.38 4-5	Edwards	" Sept. 2, 1895
1 flying..	1.61 3-5	H. Loste	Bordeaux-Parc, Sept. 7, 1895
1 stand...	1.12 3-5	"	Bordeaux-Mond, June 25, 1895
2 " ..	2.24 3-5	Barden	Bordeaux-Parc, May 9, 1895
3 " ..	3.35 1-5	"	" "
4 " ..	4.48 3-5	"	" "
5 " ..	5.59 1-5	"	" "
10 " ..	12.13 3-5	"	" "
20 " ..	25.09	Stocks	Catford, Oct. 11, 1895
25 " ..	31.43	Michael	Bordeaux-Parc, July 30, 1895
30 " ..	58.07 3-5	Stocks	Catford, Oct. 11, 1895
40 " ..	51.11	"	" "
50 " ..	1.04.17 1-5	"	" "
100 " ..	2.15.51 1-5	Lesna	Dijon, July 1, 1895
200 " ..	4.55.20 1-5	Michael	Paris-Buffalo, June 9, 1895
300 " ..	7.35.37 2-5	Huret	Bordeaux-Parc, Sept. 7-8, 1895
400 " ..	10.24.29 3-5	"	" "
500 " ..	13.17.21 3-5	"	" "
600 " ..	16.21.04 3-5	"	" "
700 " ..	19.26.51 2-5	"	" "
800 " ..	22.34.12 1-5	"	" "
900 " ..	36.48.43	Corre	Lille, March 25-26, 1893
1000 " ..	40.36.56	"	" "

3. BY HOURS. PACED.

Hrs.	Distances.	Holders.	Track and Date.
1..	29 miles 44 yards	..Stocks	Catford, Oct. 11, 1895
2..	54 " 1414 "	..Lesna	Dijon, July 1, 1895
3..	80 " 1179 "	.. "	" "
4..	103 " 560 "	.. "	" "
5..	126 " 75 "	..Michael	Paris-Buffalo, June 9, 1895
6..	150 " 873 "	..Huret	Bordeaux-Parc, Sept. 7-8, 1895
12..	283 " 306 "	.. "	" "
18	406 " 237 "	.. "	" "
24..	529 " 552 "	.. "	" "
36..	548 " 628 "	..Corre	Lille, March 25-26, 1893

4. UNPACED.

Miles.	Time.	Holders.	Track and Date.
¼ flying..	.22 4-5	Windle	Chillicothe, Oct. 29, 1895
¼ stand...	.28 1-5..	Davidson	Toronto, Oct. 3, 1895
½ flying..	.53 4-5...	"	" Oct. 4, 1895
½ stand...	1.03 2-5..	Jenney	Oneonta, Aug. 8, 1894
¾ flying..	1.32 2-5..	Tyler	Springfield, Sept. 4, 1894
¾ stand...	Never taken		
1 flying .	2.00 2-5.	Hamilton	Denver, Oct. 20, 1895
1 stand...	2.16 4-5 ..	Callahan	" Aug. 18, 1895
⅓ kil. fly.	.22 1-5 ..	Banker	Paris-Buffalo, July 25, 1895
½ " ..	.35 2-5...	"	Paris-Seine, Aug. 26, 1894
1 " ..	1.15 4-5..	Gougoltz	Paris-Buffalo, Aug. 1, 1895

YEAR'S WORK IN CLASS B.

Name.	Times Started.	Per Cent.	Points.	Prize Value
Bald	88	.891	207	$7,300
Cabanne	48	.747	84	3,255
Murphy	84	.712	125	3,893
Cooper	86	.704	158	4,573
Titus	33	.672	55	2,246
Gardiner	35	.662	47	1,764
Ziegler	34	.592	35	1,170
Sims	19	.563	27	750
Kiser	49	.561	66	2,010
Maddox	36	.557	40	1,295
Bliss	39	.545	48	1,451
Rigby	23	.533	19	686
Callahan	13	.529	11	425
Coulter	37	.522	30	860
Jenney	29	.500	45	1,688

MISCELLANEOUS RECORDS.

Flying Start, Unpaced—Sprints.

Miles.	Time.	Holders.	Track and Date.
¼ miles....	.21 3-5....	O. L. Stevens	Hedrick, Ia., 1895
⅓ "	.32 2-5....	"	"

Professional, Paced, Flying Start.

3 miles....	4.50 4-5....	Peter Berlo	New Orleans, Dec. 13, 1895
4 "	7.50	"	" "
5 "	9.21 2-5....	"	" "

Handicap Track Records—Scratch.

Distance.	Time.	Holders.	Track and Date.
½ miles....	.58 1-5....	Chas. Murphy.....	Denver, Oct. 19, 1895
1 "	2.09	F. Loughead.....	Brantford, Aug. 26, 1895, Class A
2 "	4.32	L. D. Cabanne.....	Wilkesbarre, June 26, 1895
5 " ...	12.04	"	" June 29, 1895

Intercollegiate Champion and Record.

2 miles....	5.07 3-5....	R. E. Manley.....	Berkeley Oval, May 24, 1895
2 "	4.49 3-5....	W. D. Osgood.....	Philadelphia, Summer of 1895

Novice.

1 mile.....	2.05 2-5....	R. A. Dalzell.....	Denver, Aug. 24, 1895

Professional Track Records, 1895.

¼ miles, unpaced, flying..	.24 4-5....	P. O'Connor....	Sioux City, Oct. 1
½ " paced, " ..	.52 4-5....	P. Berlo.....	Hartford, Oct. 1
½ " comp'n, " ..	.55 2-5....	P. O'Connor....	Sioux City, Oct. 1
¾ " paced, " ..	1.20	P. Berlo.....	Hartford, Oct. 1
1 " " " ..	1.44 1-5....	J. S. Johnson...	Louisville, Oct. 21
5 " "	10.11 1.5....	J. Starbuck.....	Springfield, Sept. 12

Competition, Class A.

½ miles....	1.01	F. M. Byrne.....	San Jose, Sept. 19, 1895
¾ "	1.35 1-5....	W. S. Reynolds	Springfield, Sept. 11, 1895
1 "	2.02 2-5....	C. C. Collins	Denver, Oct. 17, 1895
5 " ...	11.49 1-5....	J. C. Mitchell	Louisville, Sept. 4, 1895

Class A, Unpaced, Tandem, Flying.

½ mile.....	.55 1-5....	Coburn-Landry.....	Springfield, Sept. 11, 1895
¼ "	.24	Chapman-Parker...	Napa, Cal., Sept. 20, 1895
1 "	2.03	Downing-Benson....	San Jose, Cal., Oct. 23, 1895

Tandem, Paced.

1 mile.....	1.51 3-5....	McDuffee-Butler....	Waltham, Sept. 29, 1895

Tandem, Competition.

1 mile.....	2.05 4-5....	Haggerty-Williams..	Waltham, May 30, 1895

Professional, Unpaced, Tandem, Flying.

½ mile.....	.53	Weinig-Crooks.....	Sioux City, Oct. 1, 1895

Tandem, Unpaced.

½ miles....	.53 4-5....	McDuffee-Butler....	Waltham, Sept. 28, 1895
1 "	1.51	Anderson-Van Heri'k	Louisville, Oct. 14, 1895
2 "	3.52 2-5....	"	"
3 "	6.01	"	"
4 "	8.09	"	"
5 "	9.38 2-5....	"	"

Hour Records.

Time.	Distance.	Holders.	Track and Date.
1 hours....	27 miles 189 yards..	F. J. Titus.....	Springfield, Sept. 12
1 "	28 " 1034 " ..	J. Michael.....	Paris, Sept. 1
1 "	29 " 44 " ..	F. W. Stocks.....	Catford, Oct. 14

Hour Records. Continued.

Time.	Distance.	Holders.	Track and Date.
3 hours....	68½ miles	..B. W. Twyman...	Louisville, July 4
4 "	89⅔ "	.. " ...	"
5 "	108⅓ "	.. " ...	"
6 "	127 "	.. " ...	"
7 "	142¼ "	.. " ..?	"
8 "	162⅔ "	.. " ...	"
9 "	181¼ "	..L. Gimm.....	Cleveland, Aug. 14-15
10 " ..	201 "	.. "	" "
11 " ...	218½ "	.. "	" "
12 "	238¾ "	.. "	" "
13 " ...	258⅞ "	.. "	" "
14 " ...	278⅞ "	.. "	" "
15 "	302 "	.. "	" "
16 "	317 "	.. "	" "
17 "	336⅝ "	.. "	" "
18 " .. .	356⅝ "	.. "	" "
19 " ...	373½ "	.. "	" "
20 "	393½ "	.. "	" "
21 "	402⅝ "	.. "	" "
22 " . .	418¼ "	.. "	" "
23 "	432¾ "	.. "	" "
24 "	452 "	.. "	" "
25 "	"	.. "	" "

Class B—Paced, Flying.

Distance.	Time.	Holders.	Track and Date.
¼ miles....	.22 4-5	...W. Windle.....	Chillicothe, Oct. 29, 1895
⅓ "	.30 3-5	.... "	" "
½ "	.48 ...	"	" "
¾ "	1.18 1-5	....C. R. Coulter.....	Louisville, Nov. 4, 1895
1 "	1.42 2-5	....A. Gardiner.....	" "
2 "	3.48 1-5	....S. C. Cox.....	" Nov. 7, 1895

Competition—Standing Start.

⅓ miles....	.40	....Allen Jones.....	San Jose, April 20, 1895	
1 " ...	1.53 2-5	....O. Ziegler.....	Louisville, Nov. 12, 1895	
2 "	4.04 2-5	....F. J. Titus.....	Manhattan Beach, Aug. 4, 1895	
3 "	6.06 2-5	.... "	"	"
4 "	8.11 3-5	.... "	"	"
5 "	10.18 1-5	.... "	"	"
6 "	12 23 3-5	.... "	"	"
7 "	14.29	"	"	"
8 "	16.33 4-5	.... "	"	"
9 "	18.46	"	"	"
10 "	20.58 4-5	.... "	"	"
15 "	36.11	....A. A. Hansen.....	Minneapolis,	August 15, 1895
20 "	48.08	"	"	"
25 " ...	1.00.30	"	"	"
30 "	1.12.34 ..	"	"	"
35 "	1.24.34	"	"	"
40 " ...	1.37.34 ...	"	"	"
45 "	1.51.40	"	"	"
50 "	2.06.30	"	"	"

Class A—Unpaced, Flying.

¼ miles ...	.26 4-5	....E. E. Anderson....	St. Louis, Oct. 20, 1894
⅓ "	.38 3-5	....W. De Cardy.....	Louisville, May 2, 1895

Class A—Unpaced, Flying. Continued.

½ miles	.59		H. Clark	Denver,	Nov. 20, 1895
⅔ "	1.21	1-5	"	"	Oct. 17, 1895
1 "	2.05	1-5	"	"	"
2 "	4.30	4-5	"	"	"
3 "	7.18		"	"	Nov. 5, 1895
4 "	9.59	1-5	"	"	"
5 "	12.32	3-5	"	"	"
10 "	32.36	4-5	A. F. Senn	Utica,	Oct. 19, 1894
25 "	1.05.30		"	"	"
50 "	2.29.00	4-5	W. F. Becker	Freeport, Ill.,	Oct. 17, 1895

Class A—Paced, Flying.

¼ miles	.25	1-5	A. W. Porter	Waltham,	Nov. 2, 1894
⅓ "	.34	1-5	"	"	"
½ "	.53		"	"	"
⅔ "	1.18	1-5	F. H. Allen	Springfield,	Sept. 5, 1894
¾ "	1.24		A. W. Porter	Waltham,	Oct. 20, 1894
1 "	1.52	3-5	"	"	"
2 "	4.07	2-5	N. Butler	"	July 28, "
10 "	25.58		W. A. Wenzel	Philadelphia,	Dec. 22, 1894

Class A—Unpaced, Standing.

¼ miles	.28	1-5	H. Davidson	Waltham,	Sept. 28, 1894
½ "	1.03	2-5	F. Jenney	Oneonta,	August 18, 1894
1 "	2.19	4-5	J. D. Parks	Denver,	Nov. 26, 1894
2 "	*4.46	1-5	Harry Clark	"	"
3 "	*7.15		"	"	"
4 "	*9.47		"	"	"
5 "	*12.12		"	"	"

Class B—Unpaced, Flying.

¼ miles	.24	3-5	W Foster	Napa, Cal.,	Oct. 17

Class A—Paced, Standing.

¼ miles	.29	1-5	J. G. Budd	Glens Falls,	Aug. 15, 1895
⅓ "	.40		H. Davidson	Waltham,	Sept. 28, 1894
½ "	.59		A. W. Porter	"	Oct. 20, 1894
¾ "	1.28	3-5	"	"	Nov. 2, 1894
1 "	1.58	1-5	"	"	"
2 "	4.24		J. Gardner	Springfield,	Sept. 12
3 "	6.36		"	"	"
4 "	8.51	2-5	"	"	"
5 "	11.03	2-5	"	"	"
5 "	10.07	2-4	C. Miller	Louisville,	Nov. 7, 1895

Class B—Unpaced, Standing Start.

¼ miles	.28	1-5	C. M. Murphy	Savannah,	May 11, 1895
½ "	1.01	1-5	"	"	May 13, 1895
½ "	.41	3-5	F. M. Thatcher	Salt Lake City,	June 17, 1895
⅔ "	1.22	1-5	A. Gardiner	Chicago,	Aug. 10, 1895
2 "	4.39		F. G. Barnett	New Orleans,	Dec. 7, 1895
3 "	7.18		"	"	Dec. 6, 1895
4 "	9.50		"	"	"
5 "	12.22		"	"	"

*Accepted by L. A. W.

SIX DAYS PROFESSIONAL RACE.

SAFETY BICYCLES—HOUR RECORDS.

MADISON SQUARE GARDEN, NEW YORK, DEC. 25–30, 1893.

Hr.	Name.	Mls.	Lps.
1	Berlo	21	9
2	Waller	40	1
3	Fornuldt	57	9
4	Van Emburg	75	0
5	Van Emburg	91	8
6	Van Emburg	108	8
7	Van Emburg	125	2
8	Hosmer	141	6
9	Waller	156	5
10	Hosmer	173	8
11	Hosmer	190	5
12	Hosmer	206	4
13	Hosmer	223	7
14	Hosmer	240	1
15	Hosmer	256	9
16	Hosmer	273	2
17	Hosmer	289	7
18	Hosmer	305	1
19	Waller	321	5
20	Waller	337	7
21	Waller	353	5
22	Waller	367	8
23	Waller	385	2
24	Waller	402	0
25	Schoch	410	1
26	Schoch	418	8
27	Martin	432	2
28	Martin	447	8
29	Schoch	463	5
30	Schoch	477	0
31	Schoch	490	8
32	Schoch	505	7
33	Schoch	521	1
34	Schoch	535	4
35	Schoch	550	1
36	Schoch	565	1
37	Schoch	578	9
38	Schoch	592	7
39	Schoch	607	1
40	Schoch	621	7
41	Waller	636	7
42	Waller	651	4
43	Waller	665	7
44	Schoch	678	7
45	Schoch	692	6
46	Schoch	705	4
47	Schoch	719	8
48	Schoch	733	1
49	Schoch	745	5
50	Schoch	756	3
51	Schoch	767	9
52	Schoch	779	0
53	Schoch	779	0
54	Schoch	783	4
55	Schoch	796	4
56	Schoch	807	3
57	Schoch	808	1
58	Martin	820	8
59	Martin	835	5
60	Martin	850	0
61	Martin	864	2
62	Martin	878	6
63	Martin	894	9
64	Martin	907	3
65	Martin	918	9
66	Martin	931	3
67	Martin	946	8
68	Martin	961	2
69	Martin	967	5
70	Martin	977	4
71	Martin	983	4
72	Martin	983	4
73	Martin	983	4
74	Martin	992	2
75	Martin	1004	1
76	Martin	1012	5
77	Martin	1012	5
78	Waller	1015	5
79	Waller	1025	0
80	Waller	1025	0
81	Waller	1036	4
82	Waller	1051	8
83	Waller	1067	0
84	Waller	1081	0
85	Waller	1095	5
86	Waller	1108	8
87	Waller	1123	7
88	Waller	1137	0
89	Schoch	1149	0
90	Schoch	1160	7
91	Schoch	1170	3
92	Schoch	1183	1
93	Schoch	1197	4
94	Schoch	1205	5
95	Schoch	1218	6
96	Schoch	1232	4
97	Schoch	1239	2
98	Schoch	1252	6
99	Schoch	1264	5
100	Schoch	1277	0
101	Schoch	1287	0
102	Schoch	1287	0
103	Schoch	1288	5
104	Schoch	1302	6
105	Schoch	1316	4
106	Schoch	1327	5
107	Schoch	1341	3
108	Schoch	1355	2
109	Schoch	1368	6
110	Schoch	1381	8
111	Schoch	1395	0
112	Schoch	1409	4
113	Schoch	1423	0
114	Schoch	1436	1
115	Schoch	1448	8
116	Schoch	1457	8
117	Schoch	1468	8
118	Schoch	1469	9
119	Schoch	1473	2
120	Schoch	1474	1
121	Schoch	1480	0
122	Schoch	1481	4
123	Schoch	1486	3
124	Schoch	1489	1
125	Schoch	1504	4
126	Schoch	1508	2
127	Schoch	1508	2
128	Schoch	1508	2
129	Schoch	1508	2
130	Schoch	1508	2
131	Schoch	1508	2
132	Schoch	1508	2
133	Schoch	1513	0
134	Schoch	1525	0
135	Schoch	1530	0
136	Schoch	1540	0
137	Schoch	1547	7
138	Schoch	1558	3
139	Schoch	1567	0
140	Schoch	1577	0
141	Schoch	1588	3
142	Schoch	1600	1

REMARKABLE PERFORMANCES.

One mile, paced by quintuplet, 1.46 4-5; fractional time: 0.26, 0.52 4-5, 1.20, 1.46 4-5. P. J. Berlo, Hartford, Conn., Oct. 10, 1895.

Quarter mile, 0.21 2-5; ½ mile, 0.46 4- ; ¾ mile, 1.15 4-5; mile, 1.35 2-5. John S. Johnson, paced by a quadruplet, Buffalo, N. Y., Oct. 24, 1894. Straightaway. First quarter, slight down grade; second quarter, up grade; last half, level. Same course, unpaced, John S. Johnson, Oct. 30, 1894. Half mile, 0.55 3-5; mile, 1.57 4-5.

234 miles, without dismounting. W. J. Morgan, Minneapolis, Minn., Dec. 20, 1886.

867 miles, greatest distance ridden without sleep. G. P. Mills, Oct. 4 to 8, 1891.

Greatest six-day record, 1600 miles. Albert Schoch, Madison Square Garden, New York, Dec. 25 to 30, 1893.

1000 miles on roads—5 days, 11 hours, 38 minutes, Land's End to John O'Groat's (about 900 miles, 4 days, 40 minutes), and returning 100 miles. T. A. Edge, June 6 to 11, 1892.

25 miles, road competition, 1.04.47. O. B. Hackenberger, Denver, Col., Sept. 2, 1895.

28 miles 1034 yards, 1 hour. Michael, Paris, France, Sept. 1, 1895

300 miles, 13.10.37 2-5. Huret, Paris, France, July, 1895.

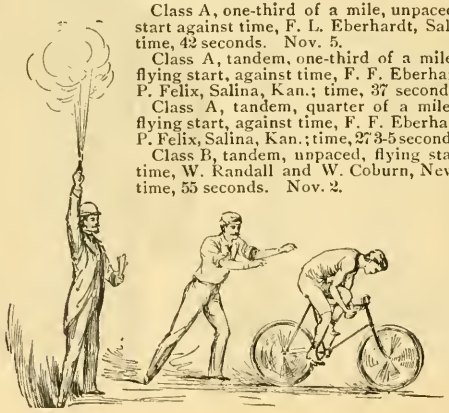
350 miles, 15.28.48; 400 miles, 17.44.43 1-5; 450 miles, 20.16.07 3-5; 500 miles, 22.47.26. Rivierre, Paris, France, Aug. 1, 1895.

529 miles 597 yards, 24 hours. Huret, Paris, France, Sept. 7, 1895.

452 miles 1715 yards, 24 hours. Gimm, Cleveland, O., Aug. 16, 1895.

J. W. Shurman made the ascent and descent of Eagle Rock Hill, in the Orange Mountains, N. J., 24 times without dismounting, on a safety machine, in 6.24.15, Nov. 17, 1888. Ordinary machine, F. Coningsby made the ascent and descent seven times without dismounting in 1.48.53, Dec. 1, 1888. To the summit of Corey Hill, Boston, Mass., 2.53½, A. P. Benson, Boston, Mass., Oct. 8, 1892.

The L. A. W. accepted the following records on December 24, 1895:—



Class A, one-third of a mile, unpaced, standing start against time, F. L. Eberhardt, Salina, Kan.; time, 42 seconds. Nov. 5.

Class A, tandem, one-third of a mile, unpaced, flying start, against time, F. F. Eberhardt and W. P. Felix, Salina, Kan.; time, 37 seconds. Nov. 5.

Class A, tandem, quarter of a mile, unpaced, flying start, against time, F. F. Eberhardt and W. P. Felix, Salina, Kan.; time, 27 3-5 seconds. Nov. 15.

Class B, tandem, unpaced, flying start, against time, W. Randall and W. Coburn, New Orleans; time, 55 seconds. Nov. 2.

Spalding's Sweaters.

Lace Front Sweater.....

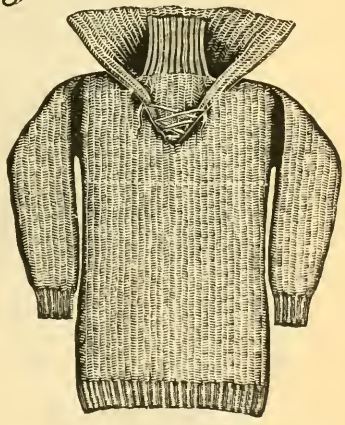
Our Lace Front Sweaters are made with large sailor collar, which can be turned up if desired, affording additional protection to back of neck and head. We can furnish them from stock in White, Navy, Black and Maroon.

No. **LB.** Heavy weight, **$5.50**
No. **LC.** Standard weight, **5.00**
No. **LD.** Medium weight, **4.00**

Turtle Neck Sweater.

The "Turtle Neck" Sweater is made of the finest Australian wool, with lace front and deep sailor collar, which can be turned up, giving additional protection to back of neck and head. The inner part is woven to sweater and extends as far down front and rear as dotted lines indicated in cut. It thus forms a double thickness over chest and back. Colors: White, Navy, Black, Maroon.

No. **KB.** Heavy weight, **$7.00**
No. **KC.** Standard weight, **6.00**
No. **KD.** Medium weight, **5.00**



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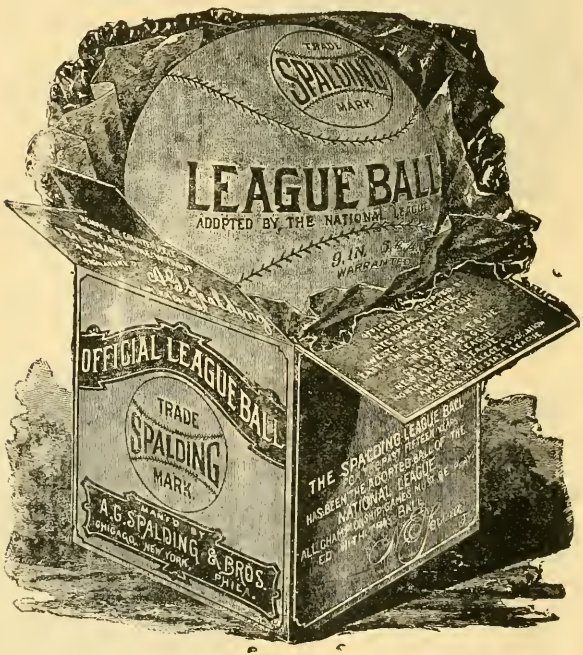

No. 1. The Spalding League Ball, as adopted by the NATIONAL LEAGUE and AMERICAN ASSOCIATION for the seasons of '92, '93, '94, '95 and '96, and used by the National League for the past 16 years. Each ball wrapped in tin foil and put in a separate box, as represented in the illustration, and sealed in accordance with the regulations of the National League and American Association. Warranted to last a full game without ripping or losing its elasticity or shape,

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Our Shaker Sweaters are made of selected American wool and are superior in quality, fit and finish to any sweaters in the market at equal prices. We guarantee them to be absolutely all wool and full shaped to body and arms. Colors: White, Black, Navy Blue and Tan.

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Made of fine Australian wool, are heavy ribbed and handsomely woven, full shaped to body and arms, and guaranteed the finest and best line of Ribbed Sweaters ever offered at the price. White, Navy Blue, Black and Maroon.

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No. **7.** Standard weight, **3.00**

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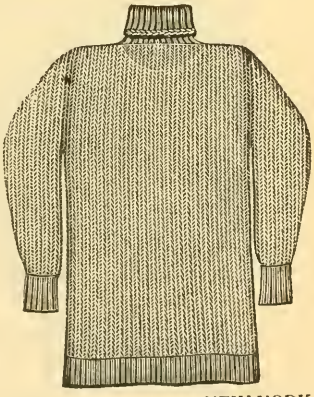

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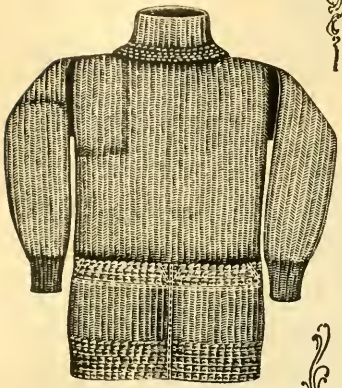


Shooting Sweater.

Regulation Style.

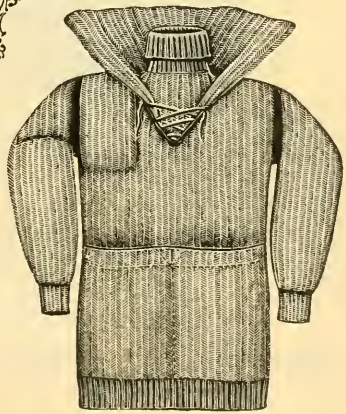
Made of finest Australian lamb's wool, fashioned to fit the form snugly and of sufficient weight to give all the protection required without making them uncomfortably bulky. They are knit in dead grass color, and the shoulder and upper arm heavily padded with several thicknesses of weaving for protection against recoil of gun. Two large pockets in front afford ample space for shells, etc.

No. 19.
Shooting Sweater, $4.00

"Turtle Neck" Shooting Sweater.

This style of Shooting Sweater is made with the "turtle neck" as described above. They are knit of the finest Australian wool, in dead grass color, and full fashioned to body and arms. The extra heavy thickness at shoulder and upper arm acts as a recoil pad, and the two large pockets in front afford ample room for shells and other articles. This style is made in extra heavy weight, and affords protection against the severest weather.

No. 17.
"Turtle Neck," $8.00



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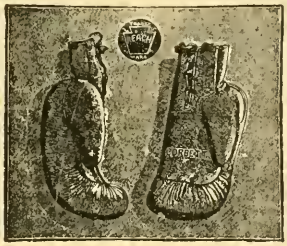

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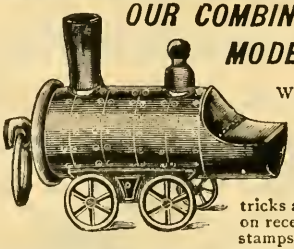

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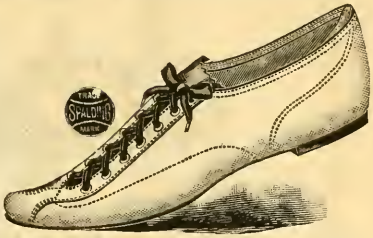

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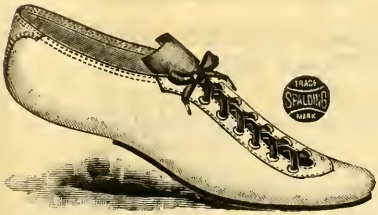

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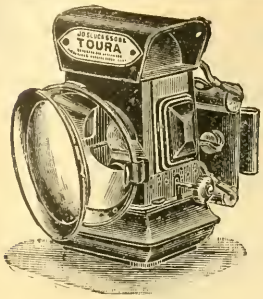

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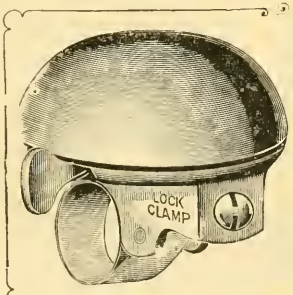

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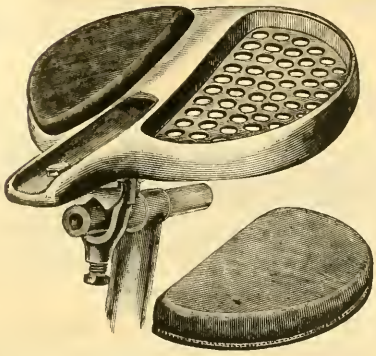

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It is MADE OF ALUMINUM, therefore maintains its shape. Cannot draw or warp and hurt the rider.

It has a short horn which does not project through between the legs, leaving the clothing in proper and comfortable position; and there is no chafing of the limbs. The pads receive the weight of the body, and the open centre protects those tender parts that are susceptible to injury. Endorsed and recommended by many prominent physicians.

This saddle has been thoroughly tried, and is already a favorite. For lady riders it has no equal. The saddle weighs but a pound, and will last the rider a lifetime.

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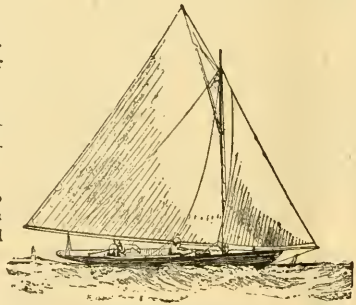

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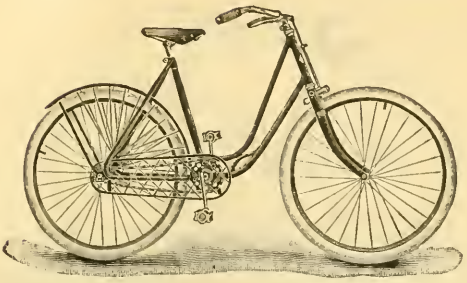

MODEL L.

FRAME—Double Tube, standard height 19 inches, dropped, of 1⅛-inch tubing, swaged and tapered to one inch at connections.
FRONT FORK—Tubular throughout, Side Forks of large section, re-enforced both ends. No forgings.
WHEELS—28 inch Front, 26-inch Rear.
BEARINGS—Tool Steel cut from bar, tempered, ground and polished. Removable Ball Races throughout.
TIRES—28 x 1¾-inch front, 26 x 1¾-inch rear.
RIMS—Rock Elm, coach finish.
SPOKES—Straight Tangent, Swaged, Nickeled.
CRANKS—6-inch Round Spring Steel. Detachable.
PEDALS—"Spalding" Rubber. Dust proof.
HANDLE BAR—Steel Tube of large section, upturned. "Spalding" Handles with white celluloid tips.
BRAKE—Direct Plunger, with Rubber Friction Blocks, readily detachable.
SADDLE—Sager, Model XI 2.
GEAR—63 inches.
FITTINGS—Tool Bag, Wrench, Oil Can, Air Pump, Repair Kit and Detachable Lamp Bracket.
GUARDS—Wood, coach finish, laced.
WEIGHT—With wood rims, rubber pedals, chain guard, dress guard and Brake, all on, 26 pounds.
TREAD—5¾ inches.
OPTIONS—High Frame, height 22 inches. Extreme Upturned, Dropped or Adjustable Handle Bars, Rat-trap Pedals, "Spalding" Adjustable Goose Neck Post. 6¾ or 7-inch Cranks. 26-inch Front Wheel. 28-inch Rear Wheel. Gears—With 26-inch Rear Wheel, 55, 58½, 65, 67, 74. Gears with 28-inch Rear Wheel, 55, 58½, 66½, 68, 70, 72, 76. "Spalding," "Hartford," "Dunlop" or "Morgan & Wright" Tires. Christy Saddle.
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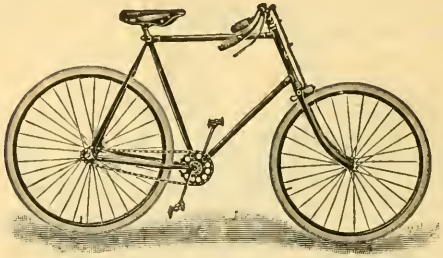

THE SPALDING "STANDARD," Model H.

FRAME—Diamond, standard height 24 inches, of 1⅛-inch tubing swaged and tapered to one inch at connections. All connections except one, steel thimbles. Tubular construction throughout.

FRONT FORK—Tubular throughout, Side Forks of large section, re-enforced both ends, no forgings.

WHEELS—28-inch.

BEARINGS—Tool Steel, cut from bar, tempered, ground and polished. Removable Ball Races.

TIRES—1¾-inch Palmer Tires.

RIMS—Rock Elm, coach finished.

SPOKES—Straight Tangent, Swaged, Nickeled.

CRANKS—6¾-inch, Round Spring Steel, Detachable.

PEDALS—"Spalding" rat-trap, dust proof.

HANDLE BAR—Steel Tubing of large section, dropped. "Spalding" Handles with black tips.

SADDLE—Sager, Model X 2 S, on direct post.

GEAR—63 inches.

FITTINGS—Tool Bag, Wrench, Oil Can, Air Pump, Repair Kit and Detachable Lamp Bracket.

WEIGHT—With wood rims and rat-trap pedals, without brake, 25 pounds.

TREAD—5¼ inches.

OPTIONS—Low Frame, height 20 inches. Giraffe Frame, height 26 inches. Upturned, Ramshorn, Extreme Upturned or Adjustable Bars. Direct Plunger Brake with Rubber Friction Blocks. 66½, 68, 70, 72, 76, 77, 80 Gear. Rubber Pedals. Spalding Adjustable Goose Neck Post. 6-inch or 7-inch Cranks. 1¾-inch "Spalding," "Hartford," "Dunlop" or "Morgan & Wright" Tires. Christy Saddle.

NOTE—Brake not furnished with Adjustable Handle Bar.

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